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HYPODERMIC MEDICATION.

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The day that Alexander Wood, of Edinburgh, discovered "that a solution of morphia injected under the skin, in the vicinity of a painful part, afforded remarkable relief to the pain," the clock of ages marked an epoch in scientific medicine, which indeed rivals Harvey's discovery of the circulation, or Morton's discovery of anæsthesia. At that hour, throughout the civilized world, suffering humanity became heirs to a boon which has been to them as a pearl of price, and that particular province in the practice of medicine which looks to the alleviation of pain, which in times gone by was the bane of the physician's life, became so modified that pain presents but few phases that we may not readily overcome, and but few characters we may not subdue. Such crises in medicine as have been wrought by the discoveries of Jenner, Cinchon, Harvey, Morton, and Wood, are precursors of glorious "gala days" in their departments, and command the admiration and respect of not our profession alone, but the good and noble the world over.

Dr. Wood, after his discovery, continned to practice the method

from November, 1843, to 1856, a period of thirteen years, and until he became thoroughly convinced of its utility and worth, when he published his first account of the subject in the Edinburgh *Medical and Surgical Journal*—now over thirty years ago.

Hypodermic medication, then, is a *fact*, not a fancy evanescent, arrived at the age of manhood. *Striking coincidences* seem to have existed in the early use of this method, as well as in nearly every other discovery connected with medicine; rivals for the honor of priority in discovery exist. Thus claiming priority for himself, is Mr. Rynd, of Dublin, while Dr. Kurzak, of Vienna, finds a champion in Dr. Sieveking, of London. Mr. Rynd claims that "the subcutaneous injection of medicinal substances to combat neuralgia, was first used by himself, in Meath Hospital, in 1844," at least one year subsequent to its recognized employment by Dr. Wood. Dr. Sieveking asserts that Dr. Kurzak, of Vienna, was the *first* to employ the subcutaneous or Hypodermic method, which was then largely used by Dr. Wood of Edinburgh." As yet, however, Wood has not been forestalled, and his claim to priority is generally concaded by Early and other distinguished writers on the subject, as Erlenmeyer, Lorent and Eulenberg. At the same time we are willing to accord to Wood the honor of discovery, we must allow Charles Hunter to be the author of its name.* The Hypodermic syringe was at first used for the releif of pain purely local, such as neuralgias, etc., and it seemed to Wood necessary that the puncture should be made *near* the seat of pain, at the point in which pain could be awakened by pressure. Notwithstanding Wood and his followers used the remedy locally, it is fair to presume that he was aware of the general or systematic effects, while its curative properties were ascribed to the local action of the drug so employed, and to the "affinity between the particular medicine administered and the tissue to which it is applied," must we then, if we wish to produce uterine contractions, use the remedy *locally* to obtain this effect. Charles Hunter questioned the validity of Wood's conclusions, and, by actual experiment, demonstrated that the remedy introduced beneath the skin produced its effect—which was felt equally as potent—when used in a part distant as when introduced directly in or near the painful part istelf; also that the remedy acts

*Medical Times and Gazette for March, 1859.

by *absorbtion* and *not* by *affinity for certain tissues.* His first paper on the subject appeared in the *Medical Times and Gazette*, October 16th, 1858. For a number of years the Hypodermic syringe seems to have been nearly confined to Scotland; afterwards it was taken up by Ward, Godwin, VonGräfe, Courty, Béhier, Scanzoni, Oppolzer, Lorent, Erlemneyer, Eulenberg, Fordyce Baker, Elliot, Ruppaner and others, until to-day, perhaps, there is not a country of which we ken where the blessing of freedom from pain through the potency of this method is not, to greater or less extent, felt and acknowledged. Prior to the introduction of the Hypodermic method, physicians had felt the want of some manner of modification of the oral administration of remedies. Since the stomach presents various gradations of disease, medicines coming in contact with the gastric juice, becoming mixed with other ingesta, and by the influence of conditions of inflammation, malignant disease, etc., they suffer *modification*, and some are even *entirely* changed in character, and, of course, effect. When we consider how true this proposition is, it is not wonderful that effects are sometimes produced which we had not looked for, and phenomena observed we did not care to see. On the other hand, by the method under consideration, the medicines are introduced directly into the system and absorbtion takes place at once, *without* the *slightest change* in *character*, and we *know* what we are giving, and the quantity as well—*i. e.*, if we give one-fourth of a grain of morphia, we get just the effect that one-fourth grain of that drug will produce. Given by the stomach, we *may* get the effect of one-fourth of a grain—and we *may only* get the effect of an eight of grain—a part being absorbed and the remainder carried out of the system in some other combination, the result of action of some depraved condition of the stomach.

The action of medicines given hypodermically seem, *almost* universally, to be the same, physiologically, as when given per orem, except that the effect is *greatly intensified* and more lasting. Sometimes the effect of remedies given by the syringe have seemed to me to partake of the character of shock to the nervous system, for the time impairing sensibility, and thus producing relief from pain and a temporary arrest of physiological processes—*e. g.*, the process of digestion may be completely arrested by a powerful dose of morphia, and by a *moderate* dose very materially benefited. It has

seemed, also, to supply an *element* in the nervous system—a missing link, for which the economy was craving, and which seemed necessary to its physical well being, and which could not readily be supplied in any other manner. The rapidity of action when remedies are hypodermically administered is a powerful argument in its favor under many circumstances; neither is it wonderful that their effects are manifest in from two to twenty minutes, since the circulation in the human subject is *completed* once every *sixty-six* seconds, and, the medicines being thrown directly into the cellular tissue, the process of absorption *instantly* begins and *goes on* to completion. The article passes through the entire economy, and thus in contact with diseased tissues, in which its affects are manifest at once. Time and again I have seen the beneficial effects of a dose of morphia, hypodermically administered, *almost* as quickly as the point of the instrument was withdrawn. When properly used, or handled with ordinary care, the danger of producing mischief is *absolutely* nil. Improperly used, we grant, there is some danger connected with it; so, too, if any of the physical or hygienic laws are violated, danger attends, and a friendly pain admonishes us, sooner or later, that nature's laws are not to be violated with impunity. Since the hypodermic method has been practiced, two deaths *only* are ascribed to its use, and these admit of serious questions of doubt; therefore I *infer* that, under proper restrictions, there is no safer method of administering remedial agents than this. Care is, of course, necessary to avoid puncturing a vein, but even this is a bugbear which may only frighten the inexperienced, and thus militate against its employment, to a very limited extent. This is one of the rarest of accidents. I have known the hypodermic syringe to be employed almost in every available portion of the body, and on an average of four times in twenty-four hours, for a period of several years, in the *same* patient, making an *agregate* of *six thousand and four hundred times*, without the slightest accident, and without even the formation of an abcess. The resulting abcess, of which we are reminded, is no fault of the instrument, generally, but of the solution, and the manner of its employment. This statement is made as a result of *frequent* use of the instrument, for more than four years, in my own hands. My own method of using the hypodermic syringe is as follows: After being satisfied that the

instrument is in perfect order, the piston properly fitted, the barrel clean, etc., I draw up slightly more fluid than I design using, invert the syringe, press up the piston to expel the air, which is nearly always drawn in, and the surplus solution; then, with the thumb and finger of the left hand, pinch up a fold of integument, pressing it prettly firmly for a few seconds, to lessen its sensibility, with a firm, steady pressure introduce the needle, at an angle of about forty-five degree, *directly into the cellular tissue*, to the depth of from one-eight to a quarter of an inch, according to circumstances; press down the piston, withdraw the needle quickly, place a finger over the puncture to prevent the escape of fluid, and the operation is complete. The method of some physicians to introduce the needle from half to an inch or more, and make the point describe the arc of a circle, or even to withdraw it partially, before pressing in the fluid, I regard as unnecessarily painful in the first instance and superfluous in the second; and, from the extensive laceration of tissue, liable to produce supuration. Quite a number of remedial agents have been employed by this method, the most prominent among which are morphia, atropia, strychnia, quinia, ergotine, physostigma, caffein, mercury and chloroform. These have yielded the most satisfactory results, while another class, as conia, woorrara, nicotia, hydrocyanic acid, iodide of potassium, iron, arseniate, of soda, etc., have not yielded as happy results, and have fallen into disrepute in ordinary practice. The first drug employed hypodermically was morphia. And its range of application has kept pace, co-extensive with its employment. While its various salts have been used, the sulphate seems to have outgrown all others in favor, for various reasons, and is at present the favorite; it is perfectly soluble in distilled water; which is, for all purposes and under most circumstances, the very best vehicle for hypodermic use, on account of being perfectly unirritating to the the tissues and not liable to produce inflammation or abcess. Authors use solutions of different strength, but I am partial to magende's, and invariably employ it. Here I would impress the fact that when it becomes necessary to use a solution which is either strongly acid or alkaline it is a matter of necessity to render it nearly as neutral as possible; for if it partakes of either of these conditions abcess is liable to result. It has been satisfactorily demonstrated, both by observation and prac-

tice, that the *dose* of medicines, when given hypodermically, in *ordinary cases*, should not exceed from one-fourth to one-third the dose given by the stomach. At the same time caution is necessary in commencing its use, by the syringe, to "test the physological capabilities of the patient by a *moderate* dose before resorting to the *maximum* dose."* Men generally tolerate a much larger quantity than women, and in certain conditions of the latter, where there is extreme nervous excitability, the smallest dose will be found to disagree very materially with the stomach. Combined with atropia in these cases, the result is most satisfactory. The use of this medicine has heretofore been almost exclusively employed in adults; but during the past year I have known of its employment in certain convulsive disorders of children, with equally as good success as obtained in adults. When the proper dose is given, I regard it as safe for children as others. The physiological effects of morphia are too well understood to require repetition here. It was early—in fact, *first*—employed in neuralgia,† in which a *single* application cured the disease. It has yielded equally as good results in my own hands a number of times; and, although we will *often* fail to cure so promptly, by perseverence, for a limited time even, we will be satisfied with its results. At present, I cannot call to mind a *single* case of ordinary neuralgia, which I have treated hypodermically, that was not speedily and, so far as I know, *permanently* cured by a few applications. Excellent results have been achieved in the most obstinate forms of neuralgia, as sciatica.

Dr. Henry Lawson,‡ assistant physician to St. Mary's Hospital, says: "I have now accumulated over thirty cases of *true sciatica*; and, while I have found other remedies do more or less benefit to the patients, I have never found any effect a cure or remove the pain except the salts of morphia administered hypodermically and locally. They have never failed. In some instances they require to be maintained and persevered in; but they give instantaneous and effectual relief. They never impair nutrition—indeed, they promote it indirectly, and, in recent cases, they effect a cure so rapidly that the result seems almost like a charm to the pain-worm patient." My own experience, though somewhat limited in this

*Bartholow †Wood, British Medical Journal, Aug. 28, 1858. ‡Medical Times and Gazette, Dec. 4, 1869; p. 654.

class of cases, accords, with a single exception, with that of the author quoted.

Puerperal convulsions have been successfully treated by the hypodermic admistration of morphia. Prof. Scanzoni,* of Wurtzburg, seems to have been the first to employ it in this affection; and such authority cannot be ignored on any subject. It seems to fulfill the indications by producing quiet and sleep; after which the patient wakes without a return of the convulsions, or, should they occur, they are greatly modified, and a continuation of the treatment soon cures the disease.

In the convulsions occurring *after labor* the morphia has been successfully employed, in combination with Flemming's aconite—one-third of a grain of the former, with two minims of the latter—one injection being sufficient to cure the disease.† This result was obtained in two cases by this combination. Morphia seems to exert such a salutary effect on the process of digestion that it has been hypodermically employed, as a *curative* agent, in that class of dyspeptics whose nervous symptoms predominate. Certainly we would hardly expect such action when given by the stomach.‡ Dr. T. Clifford Allbut,‖ of Leeds General Infirmary, has had good success with it in these cases.

In *cholera*, even in the *algide stage*, with vomiting and dejections partaking of the character of rice water, and being incessant, a few injections seemed to cut short the disease and cure the patient.** I am, notwithstanding the high authority of Dr. Bates, inclined to believe that the recent invasion of cholera has fully demonstrated that morphia is utterly inadequate to the cure of cholera, even hypodermically; much better results have followed the use of atropia in these cases.

Charles Hunter†† demonstrated the utility of morphia in delirium tremens. He reports that in one case, two days after its first employment, his patient was discharged cured. The apathy of these patients to medicines renders their oral administration extremely difficult, and sometimes utterly impossible. If we have at

*Bull, Gen. de Therap, 1860. †Dr. R. M. Bowstead, Lancet, May 29, 1869; p. 747. ‡ This is one of the instances wherein the effects of a remedy differ when given by the different methods. ‖ Practitioner, June, 1869; p. 342. **Bates, Lancet, Aug. 21, 1869; p. 282. ††British Medical Journal, Jan. 8, 1859; p. 19.

hand a syringe he is not *required* to swallow medicine; and, thrown into the cellular tissue, their efforts are more permanent and decisive. I have employed the hypodermic method in this disease, and, after a single full dose, have had the satisfaction of seeing my patient asleep in half an hour, which lasted for several hours, and, on being aroused, was perfectly sane and had no return of the disease. It has been employed in this disease by Ogle, Semeleder, Lorent, Eulenberg, Ruppaner, Anstie and Bartholow, the latter of whom* very tersely gives these indications for its use: "The condition of 'horrors' or wakefulness preceding delirium, excessive and uncontrolable vomiting of food, drink and medicine. In mild cases, in which there is little tendency to depression of the vital forces, and in which the assimilation of food proceeds satisfactorily." I have employed this remedy in combination with atropia, in dypsomania, with the happiest results, where there was sleeplessness, irritability and exeessive emesis, a single injection producing sleep, from which the patient emerged refreshed and able to attend to his usual business. First employed in psychical disorders by Hunter, whose results warranted the assertion that in mania "a single dose administered beneath the skin will at once break the neck of the disease. It will often, at once, stop the delirium, correct the mental aberation and remove the exhaustion,"† while his conclusions are more or less fully verified by Mackintosh,‡ Maudsley,‖ Wolff,** and Vix,†† who cured a recent case of acute mania by a slight injection of morphia. In acute cases, characterized by intense restlessness and insomnia, this method has been found exceedingly usetul.‡‡

In *cerebro spinal meningitis* the hypodermic remedy has been used, but to a limited extent, and with but indifferent results. I have no experience with it in this disease. *Coup de soliel*, or *sun stroke*, has yielded most readily to morphia subcutaneously administered. Dr. Hutchison,‖‖ with a single dose of one-fourth of a grain, produced instantaneous relief, which was followed by rapid recovery. It would seem necessary to discriminate between those

*Bartholow on Hypodermic Medication; p. 54, Revised Ed. †Op. Cit. ‡The subcutaneous Injection of Morphia in Insanity, 1861. ‖Reynolds' System of Medicine, vol. ii., p. 60. **Archiv fiir Psychiatrie und Nervenkrankheiten, Band ii. ††Bartholow, p. 51. ‡‡Op. Cit. ‖‖Op. Cit., p. 57.

cases in which the encephalic substance is congested and an apopletic condition existed, and those in which the same substance is anemic. It would be decidedly improper to administer a remedy which would increase a congestion already existing; therefore, if there appeared to be cerebral anemia, the remedy would be indicated; otherwise, not. There is no disease, scarcely excepting neuralgia, wherein the hypodermic administration of morphia has attained better results than in hysteria. It is the remedy upon which I most implicitly rely, and I have never been disappointed in the results obtained. I doubt if a failure to relieve a patient of hysteria be *possible* if a tolerably full dose be administered during the attack. As a remedy in *threatened abortion* it has relieved the spmptoms, and the patient been carried safely over the danger to full term. Dr. A. B. Isham,* of Cincinnati, records three cases of threatened abortion relieved in this way. Dr. John Barclay,† has employed this remedy hypodermically in *umbilical hernia*, with *obstruction of the bowels*, with great benefit; and another case of *obstructed bowels*, which resisted all other treatment for six days, was speedily relieved by this procedure.

In *disease of the heart* and *great vessels* morphia has been, for many years, thought to be contraindicated; but since the discovery of the hypodermic method it has, in the hands of some eminent physicians, risen to a position of importance in the treatment of such affections. Dr. T. Clifford Albutt‡ speaks in the following positive terms of its employment in such cases: "From small and timid beginnings I have gone forward with this marvelous remedy until I now find myself justified in using it fearlessly, in any form, and in any stage of heart and aortic disease. No matter how swollen the limbs, no matter now agitated the pulse, no matter how blue, and how turgid the face and lips, I now never hesitate to inject morphia, and scarcely ever fail, even up to the time of the dying agonies, to give relief decided enough to earn the warmest gratitude of the patient."

Gallaher‖ reports a case of a physician of Pittsburg recovering from *chronic pericarditis* by the hypodermic use of morphia. In

*Am. Jour. Med. Sciences, Jan. 1873, pp. 110–111. †What Journal not remembered. ‡Practitioner, Dec. 1870, p. 342. ‖N. Y. Med. Journal, vol. 13, 1871, p. 545.

that class of chronic painful affections, where death is the inevitable result, and only relief from the excruciating pain is sought, that the passage to the end may be rendered as smooth and painless as possible, the hypodermic use of morphia cannot be over-rated; while in *cancer, etc.*, it is *the great remedy for pain,** taking precedence over all others, and, I conceive, with justness. In malarious types of disease, as *congestive chills,*† its successful employment has been fairly demonstrated; while I have had perfect results from its employment in the ordinary intermittents we meet here. An injection half an hour before the expected appearance of the chill will, in the majority of cases, most effectually prevent its appearance. And when given during the paroxysm it has seemed to cut it short very decidedly. The addition of a grain or two of quinia to the injection would render the success much more satisfactory and ultimately curative. I have succeeded in relieving the *obstinate vomiting* of *pregnancy* by this method most perfectly, and, as a palliative in this condition, it is well worth a trial. To allay *muscular irritability and pain,* during surgical manipulations, where anesthesia is inadmissible, it is a valuable expedient. The employment of anesthesia is, in many cases, entirely unnecessary after an injection of morphia, where it has hitherto been employed, as in reduction of discolcations, etc.

The advantage following the hypodermic use of morphia in such affections as *chorea,* has been shown by the researches of Hunter,‡ Levick‖ and others, while in *tetanus* its employment has only given negative results. The antagonism‡ of morphia to belladona and its salts is now a well authenicated fact; consequently has been extensively employed as a physiological antidote in cases of poisoning by these medicines; and the promptness of action, when hypodermically given, renders this method almost the "*sine qua non*" in their treatment, as time is everything to the patient. It has given evidence of similar antagonistic properties, to the poisoning by strychnia,** though obviously of less value than the physostigma. To Charles Hunter belongs the credit of first employing the sulphate

*Freeman, Brit. Med. Journal, June 7, 1865, p. 639. †Jos. E. Garrison, Am. Jour. Med. Sciences, April, 1870, p. 571. ‡Brit. Med. Journal, Jan. 8, 1859, p. 19. ‖Am. Jour. Med. Sciences. **Allg. Med. Zeitzung, No. 80, 1869.

of atropia in the hypodermic treatment of disease. He was followed by Béhier, Coutry, Oppolzer, Lorent and others; and, as its theraputical action is less perfectly understood by the profession than morphia, the following resume of its action from Prof. Bartholow* is here presented: "A peculiar dryness and pallor of the lower lip is the first systemic effect to be observed. The dryness quickly invades the mucous membrane of the mouth, fauces and larynx, rendering delutition somewhat difficult and the voice husky. At the same time the pupil begins to dilate, reaching its maximum dilatation in about thirty minutes. With the dilatation there occur also deranged accommodation—the vision being presbyopic—and dimness of vision, the outlines of objects being blurred and indistinct. Flushing of the face more or less deep, according to the temperament of the patient, fulness of the head, with supra-orbital pain and sense of distension and giddiness are now experienced. Increased action of the heart, and rise of bodily temperature. The pulse rises in a few minutes to nearly twice the normal number of beats, and the thermometer exhibits elevation of temperature; but the correspondence between the pulse rate and temperature characteristic of fever do not exist. As time passes, these symptoms are increased in intensity and degree; so that when the patient sleeps hallucinations occur. Afterwards, when peristaltic movements of the intestines occur, and discharges take place, they seem to be loose. There is frequent desire to micturate, while the emission of urine is somewhat difficult, the flow taking place only after repeated trials." The dose of atropia varies from a hundred and twentieth to a forty-eigth of a grain, according to circumstances —one sixtieth being usually sufficient, especially when combined with morphia.

Its stimulating effect upon the organic nervous centres, and its opposite action on those belonging to the cerebro-spinal system, have called for its employment in a wide circle of diseases.† It has been employed in most of those affections which call for the use of a narcotic, and by some‡ it is considered superior to morphia in such cases. At the same time its curative effect seems to equal the morphia, it produces decidedly less gastric disturbance. In

*Bartholow, Hypodermic Medication. †Gallaher, N. Y. Med. Journal, 1871. ‡Brit. Med. Journal, Nov. 24, 1861, p. 554.

combination with the latter, I have never known it to produce emesis, though either used separately has, at times—the atropia much *less* frequently than the morphia—induced vomiting. The hypodermic use of atropia, in acute inflammatory affections of the brain and meninges, would appear to be contraindicated, from its tendency to promote hyperæmia of those organs; whereas, in the *chronic* form of meningitis and myalitis, its use by Lorent and others has been attended with success; based upon physiological reasons, too, if it be true that cerebral congestion follows its employment. In psychical disorders, we possess, perhaps, no better remedy in cases wherein an anemic state of the cerebral substance and vessels exist. In *neuralgia* affecting the internal viscera, the atropia is the remedy "par excellence," since it acts with peculiar efficacy in deep-seated pain, while its congenor, the morphia, wastes itself more especially on the more superficial.* It is particularly adapted to *ovarian neuralgia*, the *pain of dysmenorrhœa*, and that *following delivery*, from pressure of the uterus on nerves in the pelvic cavity. In *sciatica* its effects are said to be more curative, and at the same time more lasting than those of morphia, though not so speedily manifest. Dr. Cowdell† details five cases of sciatica, where a few injections entirely cured his patients, and urgently recommends it in rheumatism. I have occasionally employed it in combination with morphia, in the excessive pains of *acute rheumatism*, with most excellent results. It has been employed in *hydrophobia* and *tetanus*. Of its use in the former class of cases I have no experience to offer, and in the latter affection its employment has not been of any permanent benefit.‡ I should hesitate to employ it in *asthma*, where a hyperæmic condition of the cerebral vessels existed; yet, if the opposite obtained, (which I apprehend you will rarely see) its administration might be attended with benefit. I have not used the atropia in the *excessive vomiting* of *pregnancy*, yet am inclined to believe it a remedy of value. It is useful in *lead colic*, *incontinence of urine*, *dysuria*, etc., while *spermatorrhœa* has yielded to its employment, in moderate doses, administered at bed time. One of the triumphs of modern theraphy rests in the results obtained in cases of opium narcosis, by the hypodermic employ-

*Bartholow. †Med. Times and Gazette, March 17, 1860, p. 267. ‡Bartholow.

ment of atropia as an antidote. Its action is prompt and effectual, and positively certain. Patients most profoundly narcotized are soon beyond danger, if treated in this way by atropia, while, heretofore, this condition was regarded as almost universally hopeless. The employment of strychnia, hypodermically, was formerly practiced mainly through the valuable researches of Hunter, while the more recent investigations of Echeverria and Reuben A. Vance, of New York, have added materially to our fund of knowledge on this subject.

The proper vehicle for the administration of this drug seems to me to be water; while the dose ranges from one-fiftieth to one twenty-fifth of a grain, keeping in mind the peculiar tolerance of some patients, and, on the other hand, its *intolerance* by others. It is best, generally, to commence with the minimum dose, gradually increasing it until some of its effects are observed. Its physiological effects are a limited rise of temperature in the limb injected, with a feeling of warmth; a slight erection of hair follicles. In a short time there is pain in the abdomen, with sense of distentation, and borborygmi, dilatation of the pupils, cerebral pain and throbbing, giddiness ringing in the ears, feelings of dread, with flashes of light before the eyes, while the patient appears distressed and exhibits an anxious countenance. There seems but little doubt that the action of strychnia is "on the nervous system of animal and organic life," Its action, then, being directed to these nervous systems, renders it *the* remedy in certain kinds of paralysis of a local character. In these cases Dr. Reuben A. Vance* speaks in the highest terms of its remedial effect. It is indicated in *hemiplegia, paraplegia, local paralysis, progressive muscular atrophy,* and *progressive locomotor ataxia,* in which its employment is followed with gratifying results. In *gastralgia* and *cardiac neuralgia,* Dr. Anstie says "there is no such remeuy as strychnia subcutaneously injected in doses of from $\frac{1}{20}$ to $\frac{1}{60}$ of a grain." It has been used in *amaurosis* and *amblyopia* with success; and as a *tonic* hypodermically presents evidence of value. The sulphate of quina has been more or less frequently employed hypodermically, and its physiological effects are the same as when administered by the stomach,

*Journal of Pschycological Med., vol. iv., p. 367.

except that of intensification. A sufficient amount of dilute sulph. acid should be added to dissolve the salt, the menstrum being distilled water; the mixture being *filtered* to separate the particles remaining undissolved, as well as the foreign material present. The dose for hypodermic use is from one to three or four grains, according to circumstances. It has been employed by Chasseaud and McCraith*, of Smyrna, and Moore, of Bombay, in *malarial fevers* of the *pernicious type*, with success. I have fouud it efficacious in the *ordinary intermittents*, sometimes combined with morphia, sometimes alone, and have always succeeded in cutting short the chill, if given *during that period*, and of *preventing its recurrence* effectually, if administered before its expected appearance.

The recently ascribed theraputical effects of quina as an oxytocic would necessarily open up a new field for its hypodermic employment. If its action in this direction be true when administered orally, we may expect this same result, in a *much less qualified* manner, when administered subcutaneously. In *neuralgia* it has seemed to be successful, even when other remedies had failed,† as a preventive in, and as an agent possessing curative properties in *septicemia*‡ with great gastric irritability. Where a patient's life hangs by an exceedingly brittle thread, quinia has been administered hypodermically with astonishing success, and in such cases I most earnestly advise a trial.‡

In cases of *opium habit*, do doubt owing to its resemblance to the morphia, and its similar primary effects, it could be made to materially aid in the cure of this pernicious habit, and thus prolong a life otherwise rendered miserable by gratification of an appetite perverted and morbid in character. Since the recent investigations regarding the physiological effects of *physostigma*, and its employment hypodermically, the drug has taken a prominent place in the treatment of certain disorders, such as tenanus, both *traumatic* and *idiopathic*. The dose is from one-sixth to one-third of a grain of the extract dissolved in water, and rendered neutral, by the addition of an alkali. Dr. William Haining‖, of Chester, in speak-

†Am. Jour. Med. Sciences, April, 1866. †Dr. T. Curtis Smith, in Kansas City Medical Journal, June, 1872, p. 159. ‡Am. Journal for January, 1874, p. 122. ‖Lancet, Dec. 18, 186e, p. 834.

ing of a case of *traumatic tetanus*, in which he employed the calabar bean, says: "The antagonistic effect of the remedy upon the well marked trismus and opisthotonos was immediate and complete. The arched back, painfully tense abdomen, quivering limbs and anxious countenance, were generally relieved in from five to ten minutes after each injection, by comfortable decubitus, a feeling of drowsy ease, and, during the night, by short snatches of sleep." And again he says, "From the results obtained in this case, it may not be too much to infer that in *tetanus* the administration of calabar bean should not, in any case, be limited to effect mitigation of the symptoms, but should be perseveringly continued, in doses gradually increasing in frequency as well as in magnitude, until either the tetanic spasms are completely overcome, or the physiological effects of the drug are manifested to a dangerous degree. Once having obtained complete relaxation, it seems far from improbable that, in a large proportion of cases, careful, free repetition of the doses on the least appearance of spasm, may enable us to maintain complete control over the symptoms until their cause becomes much enfeebled, or is altogether removed." Among the physiological effects of calabar bean we observe contraction of the pupils, a feeling of tension in the eye and head, giddiness, nausea, muscular feebleness and trembling, pale and cold skin, sweating, feebleness of the pulse, vomiting and catharsis.*

We are indebted to Dr. Fraser for the following facts regarding its action: "It destroys the sensibility of the motor nerves, but does not affect the irritability of muscle. It hightens rather than diminishes the sensibility of the sensory nerves. It acts on the spinal cord, destroying its reflex power. It does not affect the brain—consciousness in animals and the intellect in man remaining unimpaired. It enfeebles the action of the heart, diminishes the number of contractions, and lessens the duration of the systole. This action is exerted through the influence of the poison on the cardiac ganglia. By paralyzing the muscles of respiration, it frequently produces death by asphyxia."† Prof. Bartholow‡ indicated the *antagonism* of the calabar bean to the action of strychnia

*Bartholow, p. 134. †Barthlow. ‡Prize essay on atropia, Am. Med. Association.

in 1869. And it has manifested such *positive* and decidedly *beneficial* results in *strychnia poisoning* that it is now generally regarded as the most most efficient remedy in cases of this dangerous character. I have employed it in a case of strychnia poisoning with the effect of almost immediately producing its beneficial results. Its action in this case is such as to warrant its employment in cases of a similar character, with, I conceive, the happiest results. M. Bourneville,* house surgeon to Paris Hospital, recommends it in cases of *epilepsy* and *chorea*, having obtained benefit in these diseases by its employment. Charles Hunter, in 1859,† asks the pertinent question: "Is chloroform applicable for hypodermic injections?" and answers it by saying chloroform is a narcotic which may be injected into the cellular tissue in urgent cases; yet the employment of this drug did not seem to be generally practiced.

Prof. Bartholow,‡ of Cincinnati, inaugurated a new procedure in the use of this remedy, only during the last year, in cases of *tic douloureux*, by its deep injection into the tissues in the neighborhood of the pain. The physiological action of chloroform hypodermically administered seem to be at first a burning pain, with anæsthesia of the parts into which the chloroform is diffused, followed by giddiness and staggering gait, with usually the occurrence of drowsiness.‖ Still later Dr. J. B. Mattison** has reported a case of *trifacial neuralgia*, in a patient suffering under the opium-habit, which was successfully treated by the deep injection of chloroform, and at the same time the desire for his accustomed stimulant disappeared, and had not returned at the time of the writing of his paper—the injection having been employed some weeks before. In none of the cases reported were there any untoward symptoms manifest, and, strange to say, *not a single abcess was developed.* The number of cases in which the deep injection of chloroform has been employed up to the present time is four; all successful. It remains to be seen whether the remarkable results obtained in these cases will attend its employment in the future, or pass from notice by its abuse, on account of its employment in cases not eligible for its application. This remedy certainly demands

*Lancet, Aug. 14, 1869; p. 233. †Med. Times and Gazette, Sept. 10; p. 253. ‡Clinic, Sept. 27, 1873; p. 145. ‖Clinic, Sept. 27, 1873. **Read before Meigs & Mason's Academy of Medicine, Feb. 19, 1874, and at this date unpublished.

careful consideration at our hands. *Caffein* has not come into extensive or extended use by the hypodermic method, and my own experience with its employment by this method is limited. It is readily soluble in distilled water, and the dose ranges from one half to two grains. It has been employed in *migraine neuralgia*, and as an antidote to *opium narcosis*. In this latter affection it has yielded valuable and decided results in my own practice. Its first effects are decided drowsiness, followed by cerebral excitement. In this connection I cannot forbear noticing the recent and most novel procedure by the hypodermic method. Dr. James B. Garrison,* of DeWitt, Arkansas, reports a case of poisoning by from ten to twenty grains of morphia; and, after injecting ten grains of extract of belladonna into each arm, at once proceeded to perforate every eligible part of his body with the needle of the hypodermic syringe, and fill his cellular tissue with coffee, until a pint had been so administered; afterwards he compelled his patient to drink about a quart of very strong coffee, followed by brandy and quinine. The patient recovered; perhaps in *spite* of this "ultra-heroic treatment"?

Mercury, as a remedy for subcutaneous employment, is, since its use in *constitutional syphilis*, by Dr. Lewin,† of Berlin, slowly but steadily forcing its claims before the profession. It is not designed to discuss the value of the remedy in this disease, farther than relates to its hypodermic employment. Some of the advantages claimed for this method are the readiness with which it affects the system, and the diminutive quantity required. Different preparations have been used; thus M. Bonilhon‡ prefers the double iodide of mercury and sodium on account of its ready solubility. Scarenzio used calomel in glycerine and water, while Hill, Hebra, Sigmund and others, prefer the corrosive sublimate, which is the preparation generally employed. One forth-eighth of a grain dissolved in distilled water is a medium dose. Dr. Grumfield,‖ in detailing the results of Prof. Sigmund's investigations in constitutional syphilis, states that the smallest quantity of the salt by which a cure was obtained was one and three-quarter grains; the largest quantity

*Med. and Surg. Reporter, Feb. 7, 1874. †Dr. Thos. Jas. Walker, in Brit. Med. Journal, July 10, 1869. ‡Bul. de Therap., April 15, 1869. ‖Half-yearly Comp., July, 1869, p. 317.

was six and one half grains; the fewest number of injections required was thirteen; the greatest number, forty-four. These results were obtained from its employment in sixty cases.

Ergotine has latterly been employed by the hypodermic method, and its administration is certainly advantageous in cases of *profuse uterine hemorrhage*, and also in *hemorrhage* from any of the deeper *cavities*, such as occur in *hemoptysis*, *epistaxis*, *hæmaturesis* and *metrorrhagia*. The symptoms present in acute ergotism are as follows: Nausea and vomiting, abdominal pain, diarrhoea, dryness of the throat, thirst, anorexia, itching of the extremities, numbness, lassitude, vertigo, dilatation of the pupils, drowsiness, delirium and stupor, dimunition of the force and frequency of the pulse, (rarely the reverse) with tendency to syncope, and pallor and lividity of the face.* It acts on the organic nervous system, producing contraction of the muscular fibres of the artinoles, resulting in anemia of the nervous centres. It is of extreme value in conditions of *congestion of the cerebral substance and its vessels*, relieving the congestion and mitigating the pain which necessarily results from this congestion. Prof. Laugenbeck† conceived the idea of its employment in cases of *aneurism*, and employed it in two cases with material benefit. Dr. Reuben,‡ of Hamburg, employed it in two cases of *menorrhagia* which he cured. It has been successfully used in *metrorrhagia* by Laudman,‖ and in *chronic metritis* by Von Swideraki,** while Prof. Hildebrandt used it with success in *fibroid tumors of the uterus*. It should be injected immediately over the tumor in aneurism; and the results up to the present date have been such as to exclude, to a great extent, the necessity of surgical interferance.†† I have thus, gentlemen, endeavored, as the committee on "Improvements in Medicine," to bring up to the present hour the literature of the hypodermic method; and, although the length of the paper is an objection to it, I could not do the subject even partial justness by saying less."

The hypodermic use of arsenic for the relief and cure of asthma is most warmly advocated by Comagys Paul,‡‡ M.D., of Philadel-

*Bartholow. †Half-yearly abstract for July, 1869. ‡Deutsche, klinik xxxii., 1869. ‖Schmidt's Jaharbücher, vol. 148, p. 301. **Berliner Klinische, Wœhenschrift, Dec., 1872. ††Middleport, March 2, 1874. ‡‡American Journal, Jan., 1874, pp. 100-101.

phia, especially where other remedies have failed. Its beneficial effects are ascribed to its action on the nervous system, and particularly over the nerves supplying the smaller bronchi. He claims to have arrested excessive dyspnœa resulting from an aggravated attack of asthma almost instantly by the hypodermic use of Fowler's solution of arsenic. He does not give the dose.

TETANUS AND STRYCHNIA POISONING—THEIR SYMPTOMS AND DIFFERENTIAL DIAGNOSIS.

BY W. P. WELLS, M.D, OF POMEROY, OHIO.

The subject I propose confining my thoughts, and your attention to, for a few moments, is one which not only interests, as a Physician, but has for many years been a source of deep anxiety to the legal as well as the medical profession. I will divide the subject into the following subdivisions and treat each as briefly as possible:

1. Tetanus* { *a* Causes { Predisposing. Exciting. *b* Symptoms in the order of their occurence. *c* Course.
2. Strychnia Poisoning { *a* Doses. *b* Symptoms in their order. *c* Course.
3. Differential Diagnosis { *a* Parts involved. *b* Different symptoms. *c* Symptoms in common.
4. Treatment.

1. The predisposing causes of tetanus: *Age*—no period of life is exempt, but infancy and middle life are more subject. *Sex*—males are more liable than females; in the reports of 1,456 cases before me, 992 were males and 464 females, being in the ratio of a little more than two to one. *Habits of life* seem to have no influence; it attacks alike the temperate and intemperate. *Constitutional susceptibility* is not apparent, individuals of any temperament being

*The causes, symptoms and course of tetanus are taken from an abstract of seventy-two cases which occured in Guys Hospital, London.—Guys Hos. Rept., vol. iii., ser. iii.

equally liable. *Climate*—it is more prevalent in warm climate and lowlands near the sea-coast; although season of the year is said to exert no influence. *Race*—the negro seems to be more subject than the white race, even in the same climate.

Of the exciting cause, it may come from the slightest scratch as well as the greatest injury. A scratch on the thumb, a splinter, extracting a tooth, cupping, amputation, abortion, etc. But it occurs most frequently from those injuries which, in point of their *extent* or *persistence*, by continued nervous irritation, are most conducive to shock.

II. Symptoms in the order of their occurrence: 1. Tongue slightly retracted and slight thickness of speech. 2. Rigidity in posterior muscles of the neck, viz.: Sterno-mastoid and trapezius. 3. Muscles of mastication involved; lock-jaw. 4. Muscles of face involved, producing a peculiar tetanic grin, or risus sardonicus. 5. Muscles of pharynx and larynx involved, breathing obstructed slightly, food and drink hard to swallow, and sometimes regurgitated. 6. Diaphragm involved; intense pain from ensiform cartilage to the spine; a feeling as if a cord drawn tightly around the body. 7. Muscles of lower extremities and back involved almost simultaneously. 8. The arms are next involved, the forearm sometimes escapes, and the fingers are rarely involved. 9. The urine retained, or scanty, and high colored. 10. Habitual constipation; if a passage occur it is singularly offensive. 11. Heart's action accelerated, but eventually becomes feeble and irregular. 12. The eyeball fixed and staring, and drawn slightly inwards. 13. Pupil never natural, either dilated or contracted. 14. Temperature above normal standard, sometimes as high as 110½°. 15. Profuse, sour-smelling perspiration.

c. Course of the disease: It generally proceeds in a continuous course of development, affecting the muscular system in the order already named, and generally terminates fatally, in from two to nine days, although we have an instance of death in fifteen* minutes from the time of the injury, and death has been protracted for thirty-two days from the time of the first symptoms. Dupuytren reports a case in which the symptoms subsided for twenty-eight

*Grant's Surgery.

days, and returned after exposure to cold, and proved fatal in a short time. Recovery is preceded by a gradual subsidence of the symptoms, and this happy issue is generally granted to the few that survive the tenth day. It has been stated that the longer the period of incubation, before the commencement of the symptoms, greater is the probability of recovery; and, conversely, the shorter the period of incubation, as well as the rapid progress of the symptoms, the more surely fatal is the issue.

2. Strychnia poisoning: *a.* Doses.—This is the hardest portion of my task, as medical aid is generally called, and it is a difficult matter to ascertain how large a dose may be taken, and recovery take place, without medical treatment. However, we have instances of the symptoms of strychnia poisoning from the one-twelfth ($\frac{1}{12}$) of a grain; however, the woman was a delicate female of highly nervous temperament, and it is stated that a dose of seven grains have been recovered from, without medical aid, but the drug is supposed to have been impure. One grain is generally considered a fatal dose, but much depends on the nervous excitability of the individual.

b. Symptoms in their order: 1. A feeling of weight and weakness of lower extremities. 2. A sensation, like an electric shock, passing from the toes, up the leg to spinal cord. 3. Slight twitching of the muscles of the leg. 4. Cramping of the legs. After this symptom the following come in such close succession that it is hard to name them in their order, for they are sometimes simultaneous. 5. Rigidity of muscles of the back, arms and legs. 6. Muscles of pharynx and larynx involved. 7. Diaphragm involved. 8. Muscles of mastication involved during exacerbation of the spasm. 9. Urine retained, scanty, or high colored. 10. Constipation, although if recovered from, the bowels easily moved. 11. Temperature above normal; sometimes 110°. 12. Profuse perspiration after the exacerbation of the spasm. 13. Heart's action slightly accelerated during spasm. 14. Pupil of eye dilated or contracted.

c. The course is generally very rapid, death sometimes taking place in fifteen minutes, during the exacerbation of the first spasm, but it may be prolonged to eight or ten hours, and the patient may survive several spasms, although very few have been known to survive the fourth spasm.

3. Differential diagnosis: *a.* Parts involved.—Strychnia exerts its influence on the spinal cord, confining its primary action to the lower part of the cord, and extending upward. Tetanus exerts its primary influence on the medulla oblongata, and may extend, by reflex action, through the medium of the sympathetic nerve, to the lower portion of the spinal cord, and then exert its influence upward through the cord. To make this matter clear to your minds, let us examine the anatomy of the parts involved. First, the spinal cord presents two enlargements, the cervical and lumbar; in the cervical enlargement the proportion of gray matter is small, the white largely in excess; in the lumbar enlargement the gray matter is largly in excess, and the white matter smaller in proportion than in the cervical region; the spinal cord ends at the lower portion of the first lumbar vertebra, and terminates in a bulb of gray matter; again, in this bulb terminates the cauda equina, or all the roots of the sacral and lumbar plexus; again, in regard to the gray matter, every collection of gray matter forms a ganglia, or nerve centre. One single cell of gray matter is as much a nerve centre as a thousand. They differ, not in kind, but in degree; its peculiar function is to receive the impression and send out an impulse. Now, as the lower end of the spinal cord is composed of a larger amount of gray matter, it appears quite plausible that it should receive a greater impression and send out a greater impulse.

We are all aware that in paralysis of the bladder and lower extremities that the paralysis yields much quicker and more readily to the influence of strychnia than paralysis of any other portion, and how often we fail when we try to relieve paralysis of the uppe extremities by strychnia. Tetanus, as I said, exerted its influence on the medulla oblongata. Let us trace the symptoms, and examine the muscles involved, and trace the nerves, that supply the muscles, to their deep origin, and we find that they arise in the medulla oblongata, viz.:

Muscles of tongue; nerve hypoglossus; origin, medulla.
Muscles of mastication; nerve, 3d branch of 5th; origin, medulla.
Muscles of face; nerve, facial branch of 7th; origin, medulla.
Muscles of neck, nerve, spinal accessory; origin, one root medulla.
Muscles of eyeball; 3d, 4th and 6th.

At the origin of each of these three nerves fibres can be distinctly traced from the medulla.

b. Different symptoms:

TETANUS.	STRYCHNIA.
1. Spasms, tonic or continuous.	1. Spasms, clonic or intermittent.
2. Symptoms begin in head and neck and proceed downwards.	2. Symptoms begin in lower extremities and proceed upwards.
3. Muscles of face involved, causing risus sardonicus.	3. Muscles of face not affected.
4. Eyeball fixed and staring.	4. Eyeball natural.
5. Arms not involved till the last.	5. Arms involved early.
6. Continued trismus.	6. Trismus only during the exacerbation.

c. Symptoms in common: 1. Involvement of the muscles of the pharnyx and larnyx. 2. Diaphragm involved. 3. Temperature above normal. 4. Constipation. 5. Retention of urine, or scanty secretion. 6. Perspiration. 7. Trismus in tetanus continuous in strychnia poisoning during the exacerbation of the spasm only. We will now examine the origin of the nerves that supply the muscles affected above, and we find they are supplied by filaments from both the medulla and spinal cord. 1. Muscles of pharynx and larynx nerve, 8th pair, root from spine and medulla. 2. Diaphragm, nerve, phrenic origin, cervical plexus, receive spinal roots and branches from pneumogastric and hypoglossal. 3. Muscles of mastication—3d branch of fifth origin in medulla. In strychnia the trismus is caused by reflex action through the inter-cranial gaaglia of the sympathetic; each gaaglia receives a sensitive root from the 5th, and the impression is carried through these filaments to the fifth, and it thus sends forth its impulse during the exacerbation of the spasm. 4. The constipation and retention of the urine are due to the influence of the spinal nerves, and does not take the place, to any great extent, in tetanus, until the spine is involved. It is evident that the spinal cord is involved through sympathetic action of the sympathetic nerve; for we find that, in tetanus, the arms are the last part involved. The sympathetic nerve has four inter-cranial gaaglai, viz.: Ophthalmic, Meckels, otic and submaxillary. They all receive sensitive roots from the 5th, the most sensitive nerve in the body; and moter roots from the 3d, 7th, 5th and 9th, in the order above named; and connects intimately with the spinal nerves, in its descent, by two filaments to each spinal root. In both affections the pupil is affected the same. The ciliary muscles of the iris are the highest enclosed with nerves of any muscles

in the body, and are under control of the sympathetic, and are contracted or dilated through its influence. The temperature, in tetanus and strychnia, is a problem not easily solved; that it is not on account of inflammation we feel certain. Nothing is easier than to say that the rise in temperature is due to deranged innervation, but in what does the derangement consist, and why should the result be a rise, and not a fall of temperature? That ordinary heat depends on the disintegration of tissue we feel assured; but the hardest of exercise in a limb does not increase the temperature but from 1 to 3°. In all grave injuries to the spinal cord, below the cervical region, we have prostration, decrease of temperature and paralysis generally; while in grave injuries in the cervical region the reverse is the case. One instance, from Morgan's First Principles of Surgery, of fracture of cervical vertebra, the temperature arose to 110°. Dupuytren mentions a case where the skin became very hot. Dr. Packard, of Philadelphia, mentions two cases—one, he says the sensation of heat was almost painful; the other, he says the skin became very hot. It cannot be due to the sympathetic nerve; for its division in the cervical region produces an increase of heat, on the divided side, of from 7* to 10° in this experment. The blood passes through the capillaries with great rapidity, the vessels are dilated, and the arterial blood passes into the veins unchanged. Experiments on the moter cranial nerves produce an exactly opposite effect. When the sympathetic is excited, and not divided, an opposite effect is produced. That this elevation of temperature is produced by the excitability of some one or more of the cranio-spinal nerves I almost feel assured; and, as the 8th pair has the most intimate connection between the spine and medulla, I would suggest that it be experimented on by some one better prepared for the experiment than myself.

4. Treatment: The first great indication in treating both these affections is perfect quiet, and the removal of anything liable to irritate the patient, either in mind or body. It has been shown by the experiments of Bernard, that to take two frogs, and insert strychnia, and immediately decapitate the frogs; irritate one with a feather, and you immediately produce spasm; the other, if left to

*Experiments of Bernard.

itself, shows no sign of spasm. The experiment must be done carefully, for the least jar will produce the spasm. Chloroform has been used successfully in strychnia poisoning by holding the spasms in abeyance until the poison has time to be eliminated; but in tetanus, according to the experiments in Guy's Hospital, it always aggravates the symptoms. The woorari poison, from its action in paralyzing the motor nerves, would be indicated in both these affections. I have noticed one case of tetanus successfully treated by this remedy, by Dr. Spencer Wells, of London; but as yet, on account of the impure state of the drug, the different varieties, and the varying strength of the article, it will not come into general use until we get the drug of a uniform standard. I would also highly recommend the calabar bean. As for other drugs, I have none to recommend, as the whole category have been tried and found wanting.

In the preparation of this paper I have not hesitated to employ the labors of others in the field; but have used a large collection of authorities on the subject, and have endeavored to acknowledge the authority. If, however, I have made any omissions in this respect, it has been done accidently, or because I have considered whatever was thus employed common property of the profession at large.

A Good Cement.—A very adhesive cement, and one particularly useful for fastening brass on glass, may be prepared by boiling three parts of resin with one part of caustic soda and five parts of water, thus making a kind of soap, which is mixed with one-half of its weight of plaster of Paris. Zinc white, white lead, or precipitated chalk may be used instead of plaster, but when they are used the cement will be longer in hardening.—*Boston Journal of Chemistry.—Dental Cosmos.*

Acontine First Discovered.—Geigher and Hesse, in 1833, each by his own process, first extracted from the leaves of Aconitum Napellus, a peculiar substance—bitter, amorphous, extremely powerful in its action on the animal economy—to which they gave the name of *Acontine.*

Remarks, Gleanings and Extracts.

BY S. M. BURNETT, M.D., OF TENNESSEE.

Physical Traits of Epileptics.—In the London *Medical Record* for May 13th is an admirable notice of Sanders' paper on the "Medico-legal Aspects of Epilepsy," from which we extract the following:

"When the fits are very numerous, it is common to say that the epilepsy is the *cause* of the insanity. Of course both are symptoms of the common disease which underlies them, and are mutually equivalent. Yet doubtless the fits themselves are prejudical. The school dogma that epilepsy may, but need not necessarily, have mental unsoundness as its sequel may be true to some extent; but the answer would probably take a different form if both the epilepsy and the mental disturbance were regarded as collateral symptoms of a brain lesion of a serious nature. The physical characters of epileptics are well known to be characterized by mental weakness—which may range from perfect imbecility to these slighter degrees of impaired intellect—which can only be recognized by close and careful observation, and then, perhaps, with difficulty. The persons who give us difficulty, in a forensic point of view, are those whose mental weakness is but slight; who conform themselves, in most things, to the ordinary customs of society, and whose peculiarities are not obvious except to their intimates. But it may help us to remember that, however slight the intellectual failure, epileptics nearly always exhibit abnormalities of feeling. Their irritability is proverbial, and it leads them to abnormal actions and reprisals against real or fancied encroachments. Hot temper, rash anger, and, when it comes to action, brutal want of reflexion, characterize epileptics under all circumstances of life, whether trifles or more mighty matters are at stake. Besides intense irritability, they often manifest a blending of the finer feelings, which leads to an almost total disregard of the ordinary feelings of decency and propriety. Epileptics are not bound by the tie of relationship, friendship or love, like other people. Most of them are egotistic to the last degree. In many of them, particularly females, there is, along with mental weakness, a peculiar childish and clinging manner, which may afterwards become erotic. This is deceptive

to the uninitiated, and often conceals unreasoning hate. Epileptics can manage some occupations very well. But only the minority really succeed in life; the great majority suffer shipwreck, if not at school, in the factory, or in the counting-house, etc. Epileptics are also prone to all sorts of crooked dealings and perverted activities, and exhibit but little power of resistance against temptations of any kind. He is also of the opinion that "moral insanity" must often be due to masked or larval epilepsy.

Commotio Retinæ.—Prof. W. W. Seely reports two cases of this affection treated by galvanism successfully, in the *Clinic* of April 25th. In both cases there had been blows on the eye—one five days and the other three days before Dr. Seely saw them. No abnormality was found on ophthalmoscopic examination; nevertheless, there was almost complete extinction of the sense of vision. The zinc pole of a battery of ten cups was applied to the neck, and the other pole was passed over the closed lid for a minute. A single application was followed by restoration of vision, and, after a second application, it was increased to the normal standard.

In connection with the above, we will quote Prof. Arlt's remarks on the subject of commotio retinæ, to be found in his paper on "Injuries to the eye in their medico-legal relations," in some recent numbers of the *Wein. Med. Wochenschr.:*

"Not only before, but also after the introduction of the ophthalmoscope into practice, it was usual, even in recent times, in cases of disturbance of vision after injury, where no changes could be detected by unaided vision or by the ophthalmoscope, to locate the lesion within the skull, to use the term *commotio retinæ* in explanation of the partly transient, partly permanent disturbance of vision, and to assume a minimum degree of disturbance of the elements of the retina, or a paralysis of the vaso-motor nerves through concussion. Dr. Berlin pointed out the untenability of this supposition, and struck out the path of more exact observation.

"We may with more probability assume that concussion of the retina has taken place, when the eye alone has been struck with a blunt instrument. This group is divided into two groups: those in which disturbance of vision—generally of a high degree, and accompanied with impairment of excentric vision—is permanent, or at least of long duration; and those which show only a slight impairment—*i. e.*, of central vision alone, which generally passes off in a few days. From repeated observations, I agree with the opinion of Geissler and Knapp, that amaurosis or a high degree of disturbance of vision after concussion of the eye very rarely occurs without changes which may be discovered by the ophthalmoscope.

"As regards the explanation of the milder cases by assuming the thrusting of the elements of the tissues against each other, this

is just as little tenable with regard to the retina as to the brain; and with regard to the hypothesis of paralysis of the vaso-motor powers, Berlin could not, after careful comparison of the injured with the sound eye (in man and in rabbits), discover any dilatation of the arteries or veins. From his observations and experiments, Berlin arrived at the conclusion that in all cases where concussion of the eye is followed by slight disturbance of central vision, or unequal impairment of excentric vision, and recovery follows in a short time, the case has been merely one in which there has previously been irregular astigmatism. This assumption is partly strengthened by the constant resistance of the iris to atropia, partly by the anatomical changes found in experiments on rabbits in the anterior part of the eye.

"In experiments upon rabbits it was found, on examination with the ophthalmoscope, that when the injury had fallen on the sclerotic, extensive opacity was found on the part of the retina corresponding with the part of the sclerotic that was struck, and also a similar opacity in a neighboring part of the fundus oculi lying directly opposite the struck part. On anatomical investigation, the important discovery was made, that the retinal opacity was only due to acute œdema, dependent on hemorrhage between the choroid and sclerotic. Thus we have here to deal essentially with a rupture of the choroidal vessels."

Signs of Death.—There is nothing more horrible than the thought of being buried alive. Indeed, this constitutes one of the strongest objections to the present system of inhumation, and will do more, perhaps, than any other one thing to advance the plan of cremation of the dead, which is now exciting so much interest in so many different parts of the world.

The Marquis d'Ourches left to the Academy of Sciences, in Paris, a prize of 20,000 francs, to be awarded to any one who would discover a simple and popular means of recognizing the signs of real death, which may be put in practice by the poor and uneducated villages. He also left another prize of 5,000 francs for the discovery of a scientific method of recognizing with certainty the signs of actual death. One hundred and two works were sent, but of all none were entitled to the first prize. The second prize of 5,000 francs has been divided between four individuals, each of whom has presented a scientific mode that is infallible in recognizing the presence of actual death; and, in addition, several modes were found deserving of "honorable mention." One sign, for which 500 francs was awarded, was the modification presented by burning the pulp of the finger in a flame. The blisters following this application, if the body be dead, will be filled only with vapor; whereas,

if it be living, the contents will be serous. Another method, which received "honorable mention," is founded on the fact that, after death, circulation in the capillaries is stopped. Consequently, if a cupping glass is applied some time after death to the pit of the stomach, aud the surface afterwards scarified, it will give out no blood. Valuable and certain signs of death are also obtained from the eye. The fundus of the eye, when viewed with the ophtholmoscope, will show in death a general discoloration, instead of the bright red reflex we see in life. Another sign, applicable by those not expert in ophtholmoscopy, is a gray and cloudy spot first appearing on the external portion of the sclerotic, and which finally takes entire possession of it. Some hours after death the muscles lose their power of responding to the electric current, and this law can be brought to bear in the determination of actual death. Another sign, which does not require any scientific knowledge for its determination, is the presence of violet-colored spots in the dependent parts of the body, which make their appearance very shortly after death. In 15,000 cases examined, it was not absent in one. For these investigations the sum of 2,000 francs was awarded. The old theory of the hydropathic Thompson that "heat was life and cold death" is not without a foundation in truth. It is a certainty that life cannot exist below 68° Fahr.; but as the body, even after death, will still remain of the same temperature of the surrounding atmosphere, and, as this is often above 68°, it cannot always be depended upon. Consequently this should be relied upon less than the gradual and progressive cooling which follows death. It has been determined that the body after death loses heat at the rate of of 2° cent. every hour. Death can thus easily be determined by the application of the thermometer every hour after apparent death. Another plan recommended is the application of the stethoscope to the cardiac region. If the heart is heard beating ever so faintly life is not extinct; but if, after a prolonged examination, no cardiac sounds are heard, life's pendulum may be deemed to have stopped its oscillations.

What Food is most Digestible?—In the treatment of gastric disorders it is of first importance that the food taken into the stomach should at the same time be nutritious and easily digestible. Prof. Leube, of Jena, in his Treatise on diseases of the stomach, makes the following observations on this point:

"Of the different kinds of meat, young veal, fowl and pigeons are digested with least difficulty. With many persons, fish and beef must be placed in the same catagory; and it is advised to give the former in the boiled state only, while beef is recommended to be brought on the table roasted, but retaining a red color. It is

an old culinary observation that excessive roasting and boiling both render meat tough; and, in accordance with the latest published researches of Frick, have shown that the same digestive juice requires three times as long to act on boiled meat as on raw. In the use of roast meat, it is an established rule, even among the non-professional public, to abstain from the addition of fatty sauces—a rule that finds its justification in the fact that pieces of meat enveloped in fat are less readily acted on by the gastric juice than are peices of lean meat. The experience of thousands of years has proved milk and eggs to belong to the class of easily digestible substances. Milk is naturally borne well by many persons suffering from gastric disease, as all must have observed; and raw eggs are said to give but little trouble to the stomach. This latter statement, however, is not confirmed by Dr. Leube, who has found boiled eggs more digestible than raw; and Frick's most recent observations show also that raw albumen has no advantage as regards digestibility. Dr. Leube allows his patients to use only soft boiled eggs. Of vegetables, the most tender only are to be allowed, such as asparagus, young hops, shelled sugar peas and young carrots. Potatoes should never be eaten except in the form of *pureé*. Gruel containing particles of groats, which may irritate the stomach, is specially to be avoided. The bread should be wheaten, and absorbs the gastric juice better if it have been baked for some time. Alcoholic liquors are to be avoided as much as possible. If wine be urgently desired, it may be given equally well *per anum* as by the mouth.—*London Medical Record.*

Influence of Alcohol on the Temperature of the Human Body.—The following general results of some most carefully conducted experiments by Rilgel, on this subject, we take from the London *Medical Record.* They were originally published in the *Deutches Archivo fur Klin, Med.:*

1. Alcohol depresses the temperature, not only in febrile diseases, such as typhus, erysipelas and pneumonia, but in a febrile condition also. This depression generally amounts to only a few tenths of a degree (cent), and lasts for a short time only. Very rarely there is an equally great rise of temperature. 2. In those recovering from severe illness, the downfall is somewhat less, or, more often, altogether absent. This is also the case in those habituated to alcohol. 3. The larger the dose the greater the downfall of temperature. 4. Riegel concludes that, although alcohol scarcely deserves the reputation given to it in England, as a decided depressor of temperature, yet, on the other hand, it never essentially raises the temperature—the constant dread of centinental practitioners—and it is decidedly one of those things which diminish bodily waste, like tea and coffee.

"CASTE, the celebrated naturalist, was almost sightless at the time of his death, having destroyed his vision with the microscope."

We quote the above paragraph from one of our exchanges, and with all due deference to it, and the source from which it obtained its authority for the assertion, we feel compelled to say that we can't believe a word of it. There is nothing more in the use of the microscope that is calculated to injure vision, than in the various offices the eyes are called upon to perform in the ordinary duties of every-day life. The accommodation is not put to any severe tension, because the instrument can be adjusted to any required degree of accommodation. The brightness of the illumination can not be injurious, for a light of such brightness as to be dazzling is just what we *don't* want in making microscopical examinations. The position of the head when the microscope is erect might have an evil influence if the patient is myopic, or where a slight congestion of the eye is to be avoided; but the stands made now, that can be inclined to any angle, obviate that difficulty entirely.

A close and accurate examination of any object for a long time is fatiguing, but the fatigue is more mental than ocular. We know gentlemen who are myopic that have for many years used the microscope daily, and often for hours at a time, and have never experienced any inconvenience to their vision thereby.

Regeneration of the Crystalline Lens in some Mammals.—M. Millot (*Journal de l'Anat et Phys.*, 1872), in his elaborate essay on the regeneration of the lens in some mammals, shows that this certainly can occur, the tubes following in the mode in which they are reproduced, the same order that they present during their generation and embryonic development. The regeneration can only occur in the cavity of the capsule, and is in direct relation with the thickness of the cortical layers that are left, especially in the equatorial part, whilst it is in inverse proportion to the age of the animals and the amount of lesion to the capsule. The posterior crystalloid does not take part in the process of regeneration. The first traces of regeneration appear about the end of the second week after the operation, and it is not complete until some time between the fifth and twelfth month, or even later when the animals are old. The new lens never exceeds one-half the size of the natural or old one, (Leroy d'Etialles and some others have obtained them of full size.) The form and size of the new lens resembles that of the old, and it can replace the latter physiologically. The lens can even be to some extent replaced a second time. The microscopical structure of the elements resembles that of the normal organ.

Spontaneous Retinal Pulsation as a Symptom in Basedows Disease.—Dr. Becker considers this in a article in the *Annal o'ocul*, translated for the *Detroit Review*, by Dr. J. F. Noyes:

The essential cause of the phenomenon he conceives to be a paralysis of the vaso-motor nerves distributed to the vessels of the retina and the increased action of the heart. The paralysis of the vaso-motor system he considers to be the prime cause of the goitre and exophthalmus; the paralysis of the muscular walls of the thyroidal and post-ocular vessels allowing a much larger influx of blood than normal, while the outflowing is not proportionately increased. From his investigations he cannot conclude that the sole origin of the disease is a lesion of the sympathetic nervous system, as has been thought by some. It is pretty certain, however, that the disease must take rank among the neuroses. Slight inflammation of the iris and corpus ciliare exercises no harmful influence over the process of regeneration. On the contrary, it seems to aid it; panophthalmitis of course prevents it. When neoplastic connective tissue is formed in the cavity of the crystalloid it is derived from exudation poured forth by the iris or vitreous humor.—*Med. Chir. Review.*

Remarks on Embolism.—Under this head, Dr. Loring, of New York, discusses, in the *Journal of Medical Sciences* for April, the question of the existence or non-existence of embolism of the retinal artery in those cases of sudden blindness which have hitherto been deemed due to this cause. He gives three cases, and the result of the macro and microscopical examination of one eye that was exhibited. From the result of this examination, as well as the ophthalmoscopical examination and the clinical histories of the cases, he is forced to the conclusion that, at least in these cases which he reports, not embolism, but thrombosis, is the pathological condition. In the eye examined, no other pathological lesion of any importance was found, except a thrombosis of the large choroidal veins.

He accounts for all the phenomena connected with these cases of so-called embolism, according to his theory of thrombosis, and in a manner more satisfactory, in his opinion, than can be done on the theory of embolism. A careful reading of the article has convinced us that there is force and point in his opinion. Still, we have much to learn respecting this very remarkable affection, and we hope much from the investigation of such men as Dr. Loring.

THE administration of eucalyptus as a febirfuge has not been found so successful as it was hoped. It certainly cannot supplant quinine.

Physiology of the Secretion of Tears.—In the *Archiv. fien Oph, Band xix., Abth.* 3*d*, Dr. Reich gives an article on the physiology of the secretion of tears. His experiments lead him to the following conclusions:

"That the centrifugal nerve-fibres, which are employed in the innervation of the lachrymal gland are situated above the superior cervical ganglion, and perhaps in the medulla oblongata, where are situated the fibres of the origin of that sympathetic nerve which regulates the salivary secretion. Irritation of other nerves, such as the fourth pair, which anastomose in the cranium with the trigiminus, has not given any result. The functional relation resting between the production of tears and the contraction of certain muscles of the face in weeping, laughing, etc., has led the author of this memoir also to study the action of the facial nerve; and he has established the fact that, after the section of this nerve, the reflex secretion always remains the same."—*London Med. Record.*

Pathogenesis of Tumors.—Dr. S. W. Cross gives, in the *American Journal of Medical Sciences*, a sketch of all the prominent theories and hypotheses on this subject that have been advanced in modern times, and renders his judgment as follows:

" . . . I am led to sustain the more conservative views of many distinguished observers and experimenters who teach that all the cells of the organism, whether fixed or mobile, epithelial or connective, investing or secretive, lend their aid in the development of tumors, but with the restriction on my part, that the migratory cell is principally concerned, as in the inflammatory process. In other words, the genesis of morbid growths is characterized by the hyper nutrition and multiplication of the masses of protoplasm influenced by it, which are, as a rule, direct productions of the vascular and connective tissue systems."

Food for Infants.—It should be remembered that infants cannot digest starchy matters. Starch must be converted into sugar before it can be assimilated, and the infant has not the power to make this change. Hence, this kind of food should be withheld from those infants that are to be brought up by hand. On this point, Dr. Lankester says, in his "Plain Rules for the Management of Infants":

"Most of the deaths from hand-feeding, under six months old, arise from the use of *corn-flour, arrowroot, baked flour, and other kinds of starchy food*, which contain no nutritious qualities, and can never be used as substitutes for milk without endangering the lives of the children who are stuffed with them. When milk cannot be obtained, pure 'condensed milk' can be used with advantage."

Sleeping Sickness.—The *Gaz. Medicale de Paris,* of November 29, 1873, contains a review of a paper presented by Dr. Emanuel F. Ribiers to the *Socidade das Sciencias Medicas da Lisboa,* on a curious disease observed by him in the Island of Principe. The principal symptom, and almost the only one, is an irrisistible desire to sleep. It seemed confined to subjects of African or mixed blood, and, as far as observed, was always fatal. A similar disease is mentioned by Dutrouleau, as indigenous to the coast of Africa; and the English naval surgeon, Davis, stationed at Lisbon, furnished further particulars of its occurrence in Africa and elsewhere, and gave several hypotheses regarding its cause—malaria, and the use of various vegetable products, being among them. Dr. Amado was disposed to consider melanæmia as a cause of the affection.—*Chig. Jour. Nerv. and Ment. Diseases.*

In a recent report on the condition of the English hospital at Pekin, China, the attending physician gives a formula for "anti-opium pills." This remedy is composed of extract of henbane, extract of gentian, camphor, quinine, cayenne pepper, ginger and cinnamon, with castile soap and syrup to form the mass, and licorice powder to form the coating. The efficacy of these pills in overcoming the opium habit, and in preventing the suffering on giving up the use of that poison, is stated to have been proved in numerous cases. The native remedies, it is said, contain opium in some form, and most frequently the ashes of opium already smoked, and consequently are inefficacious—it being as difficult to discontinue the use of the medicine as of the drug itself.

Indigestion.—After a very prolonged investigation and experimentation on the subject, Prof. Leube has arrived at the conclusion that in indigestion there is more frequently a deficiency of the digestive acid (generally conceded to be hydrochloric) than a disproportion of any other constituent of the gastric juice. He has rarely found such a deficiency of pepsin as would cause any material impairment of digestion. When he finds such a deficiency of acid he gives eight drops of hydrochloric acid in wineglass of water, an hour after taking food, and in some cases repeats the dose four hours afterwards.

Prof. Haughton has found, by direct experiment, that the muscles of women, though inferior to those of men, in exertion for a short time are more capable of long-continued work. The reason he assigns is the smaller muscular fibres of the former, whereby a larger amount of blood is sent to them than to the larger fibres of men; for the smaller the fibres of a muscle the larger the amount of blood sent to it.

Dr. Turner, in the *Charleston Medical Journal and Review*, recommends the following for gastralgia, where an active stimulant and anodyne is required:

℞.—Chloric ether, ℥ss.; bicarb. sodæ, ʒiss.; morphine, gr. iij.; camphor water, ℥iv. Dose, a tablespoonful one, two, or three hours apart until relief is obtained.

Prurigo Ferox.—A good prescription for this is said to be Hebras' modification of Wilkinson's ointment, which is composed of the following ingredients: ℞. Suphuris sublim., olei. fagi, aa ℥vj; cretæ preparatæ, ℥iv.; sapo viridis, axunge, aa, libram j. M.—*Amer. Jour. Syph. & Dermat.*

Prof. W. W. Seely (*Clinic*) thinks that facial paralysis may occur from simple congestion or pressure on or around the facial nerve, in inflammations of the middle ear, without any bone involvement; and advises examination of the ear in all cases of paralyzed facial.

Lotion for Fetid Feet.—Permanganate of potash, fifteen parts; distilled water, one thousand parts. The feet are to be washed twice a day with the lotion, then to be carefully dried and powdered with potato starch or lycopodium.—*Clinic.*—*Union Medicale.*

REMARKS, GLEANINGS AND EXTRACTS

BY R. C. WORD, M.D., OF DECATUR, GEORGIA.

Dysentery, Ergot in.—The Cincinnati *Medical News* states that M. Luton, of Rheims, had found, in giving *ergot* to a female patient, who was suffering at the same time from utering hemorrhage and dysentery, that both affections were promptly relieved. This led to the use of ergot in simple dysentery. It proved an efficacious remedy. Three grammes (about 45 grains) were given in the course of a day, in doses of 7½ grains. Two or three days generally sufficed for a cure. It appeared to attack not only the hemorrhagic element, but the whole disease, and the mucous secretions; the griping colic and fever were equally relieved. We have not tried the ergot in this disease. For most cases of dysentery we prefer the saline treatment, conjoined with anodynes and revulsives. We usually commence the treatment with a large sinapism to the abdomen, to be followed by warm formentations and the following internal remedy: ℞. Sulphate magnesia, two teaspoonsful, water,

℥iij; tinc. opi. deodorati, ℥j. M. Give one teaspoonful every two hours until the change in the discharges show that it has acted; then continue once every four hours. In most cases the disease will be converted into a mild diarrhœa by this plan in twenty-four to forty-eight hours, when it may be arrested by opiates. If the patient is bilious, ten to fifteen grains *chalk and mercury* should be given before commencing the saline mixture; and, if there is malarial complication, quinine should be given every morning.

Blood-letting in Peurperal Convulsions.—It is a great point in modern practice to descant on the empirical use of the lancet in former days, whilst there is quite as much empiricism in the unqualified disuse of it by modern extremists. In a discussion in the New York Pathological Society (*Medical Record*, Jan. 2,) a member condemned the practice in puerperal convulsions, saying "he believed in chloroform in all cases; it was the first thing he thought of, and he had never found it to disappoint him." Dr. Small referred to the suffused face, bounding pulse and pain in the head, with incipient paralysis, as denoting a condition not to be permanently relieved by chloroform, but requiring loss of blood. Dr. Briddon had seen a large number of cases of pueperal convulsions, and whenever he had treated them by venesection he had been uniformly successful. His point was to use the remedy early. In some cases when chloroform had been used first, with the effect of arresting the convulsions for a short time, venesection gave permanent relief, speedily restoring consciousness.

[Bleed and give bromide of potash freely. We have tried this successfully.—Ed.]

A Dangerous Paper.—The green paper used to wrap about lozenges, sold in shops, railroad cars, and on street corners, has long been suspected to contain arsenic; and, with the view of ascertaining the facts by analysis, we recently purchased a roll of lozenges covered with this paper. A qualitative examination of the paper afforded all the characteristic reactions for arsenic and copper. The wrapper contained twenty square inches of paper. Of this, sixteen were taken for quantitative analysis. The result of the examination showed that this portion contained .1516 grams, or 2.34 grains of metallic arsenic. This is equivalent to 2.94 grains in the whole of the wrapper, a quantity sufficient to destroy life in an adult person. Children in all parts of the country are allowed to purchase the lozenges covered with this poisonous paper, and the rolls are often put into the hands of infants as a plaything. As everything goes into the mouth of young children, it is easy to see that no more dangerous substance can pass into a family than these packages of

confectionery. It is quite probable that instances of poisoning have occurred from this cause, which have been of a serious or fatal character. There should be laws prohibiting the use of poisonous papers for any purpose.—*Boston Journal of Chemistry.*

Podalic Version.—Dr. Alexander Milne, corresponding member of the Gynæcological Society of Boston, in an article to the London *Lancet*, states that the operation of podalic version, where the parts have become swollen and dry, and the uterus has contracted firmly around the fœtus—a condition of things which has been generally regarded as contraindicating, or at least making very doubtful, the practicability of the operation of turning—he has found the best means to promote relaxation is the use of tart. antimony or lobelia conjoined with chloroform. Give a grain of the antimony and twenty-five drops of the tincture of lobelia; after the lapse of twenty minutes, place the patient under the influence of chloroform, and in a large proportion of cases the uterus will relax, the hand find ready entrance, and version become possible. The same means will succeed in shoulder presentations, even where the arm has been protruding for hours. He recommends the use of the left hand in all cases of podalic version.

Cinquo-Quinine.—We have tested this new preparation in a number of cases of intermittent fever, with satisfactory results. In one severe case of remittent fever in the country, which we did not expect to visit again, we left ten powders, four grains each, with instructions to take one every three hours continuously until all were taken. The experiment was successful, the patient having recovered without further medication.

Its cheapness recommends it to the country practitioner who is compelled to give away large quantities of drugs. It sells at about half the cost of the sulphate.

It is said to contain all the alkaloids of Peruvian bark, and to possess not only the properties of the sulphate of quinine, but other principles equally valuable, and giving it a wide therapeutical application.

Anthemis Cotula.—The above plant, being the common "*May weed*," or "*Dog Fennel*," is too well known in this country to require description. The flowers of the plant resemble those of the imported chamomile, and are said to possess similar properties. In domestic practice, they have been employed as an emenagogue, and a tea of the leaves has been found efficacious in colic and dysentery. In large doses, it is said to be a prompt emetic. But the property to which we would specially draw attention in this weed is its power of blistering the skin. The green leaves bruised and

applied to the skin will produce epaspastic effects equal, if not superior, to cantharides. If kept on long after vesication commences, they will generally make a painful and troublesome surface sore, covered with pustules, which require several days to heal—a property which may be turned to good account in cases demanding a powerful and permanent counter-irritation.

New Plan of Extracting Bodies from the Ear.—Dr. Loewenberg, of Paris, describes a new plan for extracting solid bodies from the ear. A very small brush is made by rolling, and fixing a narrow strip of old linen around a thin wooden handle (a match, for instance), and unraveling its free border to the length of a quarter of an inch. The end of the so-obtained fringe is dipped into a warm and very concentrated solution of glue, applied to the visible part of the foreign body—or rather the operator leans it against the body by letting it glide very softly, and without exercising any pressure, over it. Previous to the application, the patient seats himself comfortably in an arm-chair or on a sofa, and inclines his head toward the healthy ear. He remains in this posture for three-quarters of an hour to an hour after the introduction of the agglutinated brush. This time past, consolidation is generally accomplished, and the foreign body can be extracted by gentle pulling at the brush.—*Boston Journal of Chemistry.*

A Medical Witness Answers Back.—In the famous Wharton trial which lately took place in Baltimore, the prosecuting attorney, finding that the testimony of Dr. Warren, a witness on behalf of Mrs. Wharton, did not suit his purposes, resorted to the common expedient of badgering the witness, with the following result:

Attorney.—A doctor ought to be able to give an opinion of a disease without making mistakes.

Doctor.—They make as few mistakes as lawyers.

Attorney.—But doctors' mistakes are buried six feet under ground; a lawyer's are not.

Doctor.—No; they are sometimes hung up six feet above ground.

Vomiting of Pregnancy.—Dr. Atthill, in the *Medical Press and Circular*, says that the hypodermic injection of morphia occasionally controls the vomiting met with in pregnancy, or that which sometimes follows severe cases of *post-partum* hemorrhage. The formula which he now adopts for the solution to be injected subcutaneously is the following:

℞.—Acetatis morphiæ, gr. viij.; liquoris atropiæ, m. xlviij.; glycerini, m. iv.; aquæ ad., ℥iv. Fifteen drops of this solution contain half a grain of the acetate of morphia, and about the fortieth of a grain of atropia.—*Journal Materia Medica.*

REMARKS, GLEANINGS AND EXTRACTS

BY T. CURTIS SMITH, M.D., MIDDLEPORT, OHIO.

Insulation in the Treatment of Rheumatism and Other Diseases. By P. M. WAGENHATS, M.D., Lancaster, Ohio.—In the causation of disease we have closely established the relation of *heat* to the fluxes of the bowels. When *ozone* is in abundance in the atmosphere, we have learned to expect influenza and affections of the mucous membrane of the respiratory tract. We trace typhoid fever to the infection of potable water by sewerage; and we have seen scarlet fever follow the milkman's cart, and with the pabulum of life sow the seeds of death.

Rheumatism, asthma and malarial fevers have an acknowledged dependence upon the atmosphere as to temperature, barometric pressure, and the presence of that tertium quid, vaguely called miasm. Electric tension has also its influence, which all, sick or well, recognize in their own persons. So, also, that material manifestation of force we know as *magnetism* has, in all probability, a powerful influence in the causation of disease. Concerning this we have very few observations recorded. The field of research has rapidly enlarged as to its production of currents, etc., but it has never been studied as the *cause* of disease.

Whilst innumerable observations are on record as to its powers as a therapeutic agent, I have no theory to offer as to the *modus operandi* of the treatment to be detailed in the subsequent part of this article, but offer it as the truthful record of what is at present a limited experience, in hope that observations on this subject may be multiplied, and the facts lying in this direction may be studied.

On December 25, 1872, I was attacked with rheumatism of the ankle and knee joints in one limb, then the other. I treated myself actively by alkalies, opiates, etc., in the ordinary manner recognized as of the most value in the disease. I was unable to leave my bed for three months, could not walk until April, 1872, and did not fully recover until the warm weather of June. On the 16th day of December, 1872, I was again assailed by my tormentor; treated myself as before, and "I thought myself happy" that I was able to be out of room in eight weeks, privileged to hobble around the streets of our city with the aid of a cane. Warm weather again restored me to health, and during last summer and this winter I attended to my professional duties. On February 16, 1874, while congratulating myself that I should escape my annual attack, I was suddenly seized in the night time with severe pains in both ankles. In the morning I failed, after an ardent effort, to leave my bed. Fever was intense, as also the swelling of ankle and knee

joints. A sense of coldness of the lower extremities existed, which was even more distressing than the pain caused by the swelling of the joints. This condition continued until the morning of the 18th. From the 16th to 18th I was unable to sleep. On the morning of the 18th I *insulated* my bed, by causing the legs of the bedstead to be placed in four glass tumblers. In four hours thereafter the harrowing sense of coldness disappeared, yet the pain still continued. A sense of warmth and perspiration set in, and that night, at ten o'clock, I fell into a profound sleep, wakening on the morning of the 19th bathed in a profuse, warm perspiration, without the aid of diaphoretics or anodynes. I steadily improved, and in a few days was out of my room. On February 23, I left home for Cincinnati, where I remained a week, during all of which time I felt neither pain or soreness in the articulations. I returned to my home on Saturday, and found next morning the disease returned. I at once insulated my bed, and in eight days was able to attend to my professional duties.

George C——, age sixteen, during the autumn of 1873, had an attack of rheumatism, affecting nearly every joint in the body, and affecting the mitral valves of the heart. In the latter part of January, 1874, he was able to resume his labors. March 8th he had a relapse. I treated him in the usual way, without sensible improvement. I then concluded to try insulation, which I was slow to do in any case save my own, because it seemed whimsical. In six days after instituting insulation he left his bed, and was able to make a journey of eighteen miles, which he did without discomfort.

Mrs. ——, for eighteen years a sufferer from asthma, which occurred every month, without obvious connection with the menstrual function. During the cold months of the year she suffers almost continually. She had a severe attack in March, of this year, and in casting around for some *new* remedy, I concluded to insulate her bed. She was relieved in a short time, and since then, for more than a month, she has slept uninterruptedly upon the insulated bed, and has had no attack since.

I am aware that "one swallow does not make a summer;" and so small a number of observations does not establish the value of any form of treatment; yet, when I was so speedily relieved when I expected to follow the old course, I think there is value in it, and report these cases, promising another installment, for I have several under treatment.—*Chicago Med. Examiner.*—*Clinic.*

On the Use of the Uterine Sound in the Diagnosis of Organic Dilatation of the Uterus Predisposed to Hemorrhage.—By J. B. C. Gazzo, M.D., of La Fourche, La.—The causes of hemorrhage are very numerous, without attending to the inherent circumstances of

pregnancy and labor, as well as the various traumatic lesions of which metrorrhagia is the necessary and inevitable result. Many women are, as we know, subject, during the whole period from puberty to the critical age, to hemorrhages, whose causes it is difficult to ascertain, and which are generally attributed to a certain dynamic, a local plethora, a molimen, or to repeated excitation of the uterus. Authors have admitted, in view of this, a large number of occasional causes, the influence of which upon hemorrhage is beyond a doubt, but in order that these occasional causes, these congestive excitements, should produce hemorrhage, we have most generally, and unless they have of themselves great power, therefore, to admit the aid of a special organic predisposition. It is to these organic predispositions, which appear to have partly escaped the notice of some of the professional men, that I wish for a moment to direct the attention of your readers on this subject.

I have observed that in all women subject to hemorrhage there is found an abnormal dilatation of the inner orifice of the uterine neck. This dilatation is detected in the living by the assistance of the uterine sound. In fact, instead of feeling a circular resistance, as in the case of hearty women, when we try to pass the inner opening, the sound enters with as much ease as through the external opening; this practical consideration appears of considerable importance in relation to the diagnosis and prognosis of metrorrhagia or of uterine hemorrhage. We can readily conceive, as is already proved by experience, that the flooding will continue or return so long as the internal opening of the neck of the uterus has not returned to its physiological dimensions. This uterine dilatation, therefore, appears to me to be ranked as one of the most powerful predisposing causes of hemorrhage, and this fact should be borne in mind, either in the diagnosis and prognosis, or as a proper indication in the treatment of uterine hemorrhage. Then let me here add that the general conclusion of the investigation was satisfactorily ascertained in two hundred cases, within the examination and diagnosis of uterine exploration of the womb, by the test of the uterine sound, without causing any uneasiness.—*Medical and Surgical Reporter.*

Formation of True Bone in Penis.—By Dr. J. von Lenhossek, Pest. (*Virchow's Archives*, vol. 60, April 1, 1874.)—The occurrence of *true ossification* in the penis has not been proved till now; the doctor's case is, therefore, very interesting, the more so, as not simple bony plates, but a larger piece of bone, besides a cartilaginous body, were found *post-mortem* in a corpse, of which he only learned that the individual died from typhus, at forty-two. Both the cartilaginous and the bony formations were situated in the

cavernous bodies. There was a dorsal bone, with a channel for the dorsal vessels, and three ventral bones, with channel for the urethra. They originated from the middle fibrous septum of the cavernous bodies. Their color was yellowish. The microscopic examination revealed three different layers in the bony substance. The external layer consisted of connective tissue and some elastic fibres. The middle layer was composed of the same elements, containing spindle-shaped cells. The inner layer was characterized by the *Haversian canals*, about which were grouped, in concentric lines, the bony canals, connecting with the larger cavities of the bone. The cartilaginous body originated, likewise, from the middle septum, had a white color, and consisted of connective tissue and many elastic fibres. As the place of the erectile tissue was partly taken by the new formations, erections, of course, were very much interfered with. At last, the doctor states, that Professor von Siegmund observed bony bodies in penis, but only in life. In nearly all these cases the patients were, or had been syphilitic. The seat of these formations was also the cavernous bodies of the penis. The professor considered them as complete ossifications of the lymph vessels.—*Detroit Review of Medicine and Pharmacy.*

Some Sources of Syphilitic Infection.—In an able article on this subject, Dr. J. Nevins Hyde advances these propositions—

First, that "the ordinary menstrual secretion of a syphilitic female is capable of producing chancre and its consecutive symptoms under such circumstances as would insure contagion from a primary sore." With regard to the contagiousness of the blood of syphilitic patients there can be but little doubt after the oft-quoted experiments of Prof. Pellizari, and as the menstrual discharge is a true hemorrhage and not a secretion, it is reasonable to infer that it must possess this property in common with the circulating fluid. Several interesting cases are given in which this was the only method, apparently, by which infection could have taken place. By this means some of those hitherto inexplicable cases can be readily understood, in which, after confrontation, it has been impossible to discover any traces of disease in the female by which the male could have been contaminated.

Secondly, as Dr. Hyde shows, "the secretion of a uterus, which is the seat of secondary syphilitic deposits, are capable of prodcuing chancre and its consecutive symptoms under such circumstances as would ensure contagion from primary sores." In this connection the author points out the uncertainty which obscures our knowledge as to how far or in what form the uterus is the seat of secondary syphilitic manifestations.

Thirdly, a gonorrhœal discharge in a syphilitic subject is capa-

ble of producing chancre and its consecutive symptoms under such circumstances as would ensure contagion from primary sores.—*American Journal of Medical Sciences*, Jan., 1874.—*Nashville Medical Journal.*

A Simple Plug for Rectal Hemorrhage.—Two years ago, under somewhat urgent circumstances, Furneaux Jordan, F.R.C.S., devised a plug, which he has found ready, simple and efficient, in checking hemorrhage from the rectum, whether recurrent or secondary. The tip of the fore-finger thrusts the centre of a thin white pocket handkerchief well into the rectum; large marbles of compressed cotton wool (or rag) are then gently pushed into the pouch in the rectum, until it is amply distended, and of a balloon shape. Expulsive efforts, or moderate traction on the handkerchief, increase its hemostatic efficiency. The wool marbles may be moistened with the perchloride of iron, if it be deemed necessary. A plug saves the necessity of pulling down the rectal wall with a vulsellum forceps, and tying the bleeding point—not a pleasant alternative, especially without chloroform. In twenty-four or forty-eight hours the rectum converts the balloon into a cylinder, which is readily withdrawn at pleasure.—*Surgical Inquiries.*—*Nashville Journal of Medicine and Surgery.*

Phosphoric Acid in the Urine in Cases of Disease of the Brain.—With the view of determining whether the excretion of phosphoric acid by the kidneys is in any way influenced by diseases of the brain, Dr. E. Mendel has carried out a series of experiments, the results of which are as follows:

The relation between the phosphoric acid excreted and the remaining solid constituents of the urine varies considerably, ranging from 2·49 to 3·93 per cent., averaging, therefore, 3·233 per cent. A greater quantity of this substance is excreted by night than by day. In chronic diseases of the brain, the daily excretion of phosphoric acid is diminished, both absolutely and relatively, as compared with the other solid constituents. In cases of maniacal excitement, there is an increase (absolute and relative) of the phosphoric acid; an increase is likewise noticed during apoplectic and epileptic attacks, and also after the administration of chloral and bromide of potash.

If a diminution of the amount of this acid is observed in cases of chronic disease of the brain, this diminution will generally be found to be dependent upon the decreased muscular activity, consequent upon prolonged illness. In other cases, it is to be attributed to the general deterioration and wasting of the system, the result of imperfect assimilation.—*Archiv für Psychiatrie.*—*Boston Medical and Surgical Journal.*

Double Spleen and Kidneys.—In a *post-mortem* examination made by Surgeon-Major G. W. Jameson, in the city of Ghazeepore, the following abnormalities were found. In addition to one healthy, well-developed spleen, there was a second smaller one, connected with the abdominal vessels by separate communications of its own, and situated between the ordinary spleen and the liver. The smaller was of a roundish shape, and had a distinct hilus. Weight of first spleen, 9 oz., 1 dr., 6 gr.; weight of second spleen, 1 oz., 1 dr., 30 gr. There were also found four kidneys; two of these were well developed, healthy, and in the usual situation, while the second pair were small, intensely inflamed, and situated lower down than the other. The four kidneys had each their separate arterial and venous attachments and ureters. Weight of the two normal kidneys, 5 oz., 4 dr.; weight of the two smaller, 1 oz., 4 dr., 24 gr. The bladder was exceedingly small, walls much hypertrophied, and the mucous coat somewhat inflamed.—*Edinburgh Medical Journal*, April, 1874.

Sir Thomas Brown says: "Riolanus (1550) observeth that a man deaf from a bad conformation of the organs of the eare, pricking his eares too deepe, unawares pierced the tympane membrane and moved or broake the little bones, and afterwards came to heare: and, thereupon, proposeth the question whether such a practise might not bee attempted, which I confess I should be very warie to encourage; and I doubt few have attempted that course which he also proposeth agaynst the *tinnitus* and noise in the eares; that is to perforate the *mastoides*, and so afford a vent and passage unto the tumultuating spirits and winds."—*Boston Medical and Surgical Journal.*

Death from Lancing of the Gum.—In the *American Medical Journal* for April are given the particulars of the death of a child, fourteen months old, from hemorrhage occasioned by the lancing of the gum over the molar tooth. The blood oozed from the divided gum for three days, in spite of all efforts to suppress it. The child was well developed, and healthy from birth, and no previous suspicions had been entertained of the existence of a hemorrhagic diathesis.

REMARKS, GLEANINGS AND EXTRACTS

BY A. R. KILPATRICK, M.D., OF TEXAS.

Diphtheria.—In the April number, 1874, of the Charleston *Medical Journal and Review*, there is a very instructive article on *Diphtheria*, by Dr. Geo. E. Trescott. He contends that there is a difference between *croup* and *diphtheria;* and following the differentiation laid down by Dr. Stokes, he gives the following table:

PRIMARY CROUP.	SECONDARY CROUP.
1st. The air passages primarily engaged.	1st. The laryngeal affection secondary to disease of *pharynx and mouth.*
2d. The fever, symptomatic of the local disease.	2d. The local disease arising in the course of another affection, which is generally accompanied by fever.
3d. The fever inflammatory.	3d. The fever typhoid.
4th. The necessity for antiphlogistic treatment, and the frequent success of such treatment.	4th. Incapability of bearing antiphlogistic treatment; necessity for tonic, revulsive and stimulating treatment.
5th. The exudation spreading to the glottis from below upwards, the pharynx healthy.	5th. The exudation spreading to the glottis from above downwards, the pharynx diseased.
6th. The disease spasmodic, and in some situations epidemic, but never contagious.	6th. The disease constantly epidemic and contagious.

Dr. T. quotes from Bretonneau: "If the patient presents any evidence of disease of the nasal passages, a slight snuffing, or coryza during the prevalence of diphtheria, the finger should be placed behind the angle of the lower jaw, below the lobe of the ear, and thence passed down the side of the neck, and if swelling of the glands be noticed, it renders it probable that there is false membrane in the nares. If the upper lip is reddened only under the nostril corresponding to the side where the cervical glands are enlarged, it is quite certain there is diphtheria present."

Contagion.—Numerous authorities, such as Bard, Bretonneau, Trousseau, Niemeyer, Vogel, Guersent, Valleix, Rilliet, Barthez, Wood, Empis, and many others, contend it is contagious.

Does one attack exempt a person from a second? As diphtheria is a constitutional disease, in which the blood of the system is diseased in a manner similar to small-pox, scarlatina, etc., we may well infer that very few will have it a second time.

Treatment.—He depends chiefly on chlorate potassium, quinine, iron, and a general sustaining course. He seldom uses cauterants, and their employment is gradually being given up in England and Europe. Dr. Jacobi uses: ℞. Bromine, bromide pot., aa gr. i.; aqua, ℥vj. Apply to the throat.

Dr. Hertz recommends this wash for the throat: ℞. Carbolic acid crystals, ʒi.; alcohol, fl. ʒi.; tincture iodine, fl. ʒss.; aqua, fl. ʒv. Mix. Apply three or four times in twenty-four hours.

Others use chlorate and iodide pot. in combination with good effect.

He says a *distinct ulcer* rather points to some other disease than genuine diphtheria.

Dr. Trescott never calls a case diphtheria to laymen, unless the membrane forms.

In answer to the question, "Can we, by early and powerful medications, control the disease?" the answer generally is, we cannot. Dr. Marshall, of South Carolina, believes that by calomel and quinine, in large doses, during the first forty-eight hours, the disease can be greatly modified. Dr. Dean, of South Carolina, an old practitioner, has seen cases where the early administration of an emetic has had a most decided effect in saving the patient. Dr. Hoke, of South Carolina, who has had a large experience, does not believe that in genuine diphtheria we possess any remedy by which we can control the disease. Dr. Hoke says, in one fatal case, he carefully removed, with the forceps and scissors, the entire membrane, and in three hours by the watch it had reformed, and appeared to be even thicker than before.

In an able and very interesting article on *Diphtheria*, by Dr. Benjamin Lee, read before the Philadelphia County Medical Society, 11th February, 1874, and published in the *Medical Times*, 16th May, he takes the opposite ground, that this disease and *croup* are the same. He properly criticizes, and objects to, the name *diphtheritis*, as being a misnomer; meaning, literally, an inflammation of a false membrane.

He quotes, in proof of his opinion, the writings on this disease of Dr. Max Jaffe, of Hamburg; Dr. Oertel, of Munich; Dr. Ludwig Letzerich, of Vienna; Dr. Conrad Küster, of Berlin; Dr. Lewin, of Berlin; Dr. Franz Hartman, of Wiesbaden, and Dr. Morell McKenzie, of Great Britain—all of whom say, in substance, that the distinction between diphtheria and croup was one which could no longer be maintained. That neither is always, and both are sometimes, epidemic and contagious; that the exudation is essentially the same, being modified by its site, but presenting histologically no marked difference—that of dipththeria having been noticed to become organized as well as that of croup; and that the sequelæ of diphtheria—albuminuria and impaired innervation—have also been observed to follow croup.

Of course, Dr. Lee contends for a supporting and tonic course of treatment, together with remedies to counteract the systemic poison.

A favorite remedy is the following: Quinine freely, and—℞. Potas. chlorate, ℈ viij.; acid hydrochloric, m. viij. Rub together until greenish fumes of chlorine begin to rise, then add aqua cinnamon, fl. ℥ viij. M. S. A tablespoonful every two hours.

He says Dr. Fordyce Barker's favorite remedy is *Turpeth Mineral*, or yellow sulphate of mercury. It acts as an emetic more promptly and efficiently than alum or ipecac; it is tasteless, does not exhaust and depress the vital power; it is equally prompt as sulphate of copper, and much more effective as a sedative and revulsive.

Cerebro-Spinal Meningitis.—Dr. Wm. Read, of Boston, Mass., published in Nos. 20 and 21, May, 1874, of Philadelphia *Medical and Surgical Reporter* the treatment of twenty cases of this disease in Boston City Hospital in 1873 and 1874. The details of symptoms, changes, treatment, etc., are full, precise and interesting. Some of the cases, if they had occurred in a Southern section, or in the practice of a less observant physician, would not have been classed as meningeal, or been treated as they were by him. He acknowledges his indebtedness to Dr. Brown-Sequard for the suggestion of ergot and belladonna as remedial agents in this disease. Ergotin, *one grain;* ext. belladonna, $\frac{1}{10}$ gr.; repeated every three hours. This diminishes the amount of blood supplied to the brain and spinal cord. In only one case was any relaxation of the iris observed. It seems to be a characteristic feature, or symptom, that the pupil does not enlarge from the use of belladonna in this disease. He used many other medicines, as they were called for by the necessities of the cases, such as cathartics, diaphoretics, stimulants, cups, blisters, etc. Out of the whole number only three died under his treatment.

The writer now has a case of the kind under treatment, and has used atropia by the endermic syringe, and has given belladonna internally, and has observed closely, and has at no time seen any dilatation of the pupils. The case has been very severe; hemiplegia at first, delirium, hyperosthesia, all of which are gradually and steadily yielding.

Action of Cold Water on the Spleen.—Dr. F. Mosler has arrived at the following conclusions from experiments on the action of water on the exposed spleens of animals: 1. The immediate contact of water with the normal spleen produces a visible contraction of the organ, varying in degree with the temperature of the water and the duration of the application. 2. In a less degree, cold water exerts the same action on the spleen through the intestinal walls. The effect of a cold douche is greater than that of the ap-

plication of cold compresses or pieces of ice; probably the mechanical influence plays a part here. The action of water is inferior to that of quinia in causing contraction of the spleen. 3. Cold water also produces diminution in the size of splenic tumors, both acute and chronic. 4. The febrile paroxysms in ague may be arrested by cold douches applied after Fleury's method. 5. The cold douche does not supersede the use of quinia either in recent or in chronic cases of intermittent. 6. The therapeutic action of the cold douche in intermittent fever is not complete. It does not prevent relapses nor the formation of splenic tumors. 7. The splenic tumor in typhus is reduced in size by the use of cold water. 8. Much good is to be expected from a combination of the application of cold over the spleen, either in the form of ice or of the cold douche, with the administration of quinia.—*Baltimore Physician and Surgeon.*

Chloral Hydrate Successfully used in Tetanus.—Dr. Coryllos, of Patras in Greece, published a case of this kind in the *Allgem. Wiener Med. Zeit.*, No. 2, 1873, and now the same author records two similar cases, one under his own care, and the other treated by Dr. Basilin. The latter case relates to a woman of forty, who had wounded her finger with a splinter, which she removed herself. Tetanus occurred one month after the accident, and she had more than ten general attacks in the twenty-four hours. Sixteen days after the first tetanic symptoms the patient removed from the wound a bit of splinter, the size of a pin, which had been left in it unobserved. The usual narcotics having failed, chloral was tried and succeeded. Altogether three ounces and a half were taken in twenty days.

In Dr. Coryllos' case a man of forty had his left temple wounded by a pointed piece of reed. Tetanus supervened, and here, again, a portion of the foreign body was removed twelve days after the accident. He had at first fifteen-grain doses of chloral, and improved much upon them, but the tetanus recurred with renewed severity, and the chloral was pushed as high as 120 grains per diem. The patient recovered, and had taken, in about thirty days, six ounces of chloral.—*Lancet*, April 4, 1874.

A Vegetable Cure for Syphilis..—C. C. Graham, M.D., (*American Practitioner*) says: "Having lived my first century pretty well out, and thinking that I may sometime or other die, I desire through your journal to make known to the medical public a discovery I made many years ago, of a vegetable cure for syphilis. This is a mixture of datura stramonium and phytolacca decandra. Of the best proportions of the ingredients I am not now able to

speak with confidence, but my recollection is that I made the tincture of one ounce of the stramonium seed and half a pound of the poke-root to two quarts of common whisky. I am sure I have in fifty years treated by this tincture twenty cases of syphilis, many of them of the worst form, with perfect success. It is proper to add that I got the hint of poke-root as a remedy in the disease as long ago as 1815, when I was a pupil in Dr. B. W. Dudley's office, at Lexington, where I saw it successfully given in the case of a negro man."

How to Check Coughs.—Dr. Brown-Sequard, in his late Boston Lectures, says that there are many facts which show that morbid phenomena of respiration can always be stopped by the influence of arrest. Coughing, for instance, can be stopped by pressing on the nerves of the lip in the neighborhood of the nose. A pressure there may prevent a cough when it is beginning. Sneezing may be stopped by the same mechanism. Pressing in the neighborhood of the ear, right in front of the ear, may stop coughing. It is also preventive of hiccough, but much less so than of sneezing or coughing. Pressing very hard on the top of the mouth inside is also a means of stopping coughing. And he adds that the will has immense power there. There was a French nurse who used to say, "The first patient who coughs here will be deprived of his food to-day." It was exceedingly rare that a patient coughed then.—*Med. and Surg. Reporter*, April, 1874.

Whooping-Cough.—Dr. Stevens, of Ilminster, gives his experience with various remedies in this disease, in the *British Medical Journal*, as follows:

I must give the preference, in an ordinary case, to small doses of compound tincture of benzoin, frequently repeated. If the cough be more than usually spasmodic, I find dilute hydrocyanic acid, combined with bromide of potassium and camphor mixture, very serviceable; in the latter stage of the disease I much prefer alum, combined with dilute nitric acid and gentian, to any other astringent tonic; although in all cases everything depends upon the diathesis of the patient. I was greatly disappointed in the use of chloral hydrate, as in one case only could I detect the slightest benefit.—*Med. and Surg. Reporter*, April, 1874.

Treatment of Diabetes.—In a paper recently published (*Sitzungsberichte der Kais. Akad. d. Wiss. zu Wein*, Bd. lxvi. Heft iii., iv. and v.) Dr. Kratschmer gives the results of a series of observations he has made on a diabetic patient, with a view of testing the value of carbonate and sulphate of soda, and of morphia, upon the

excretion of sugar. He finds that neither the carbonate nor the sulphate appeared to exert any influence on the amount of sugar excreted, but he has satisfied himself that in morphia we possess an agent that is not only capable of materially reducing the excretion of sugar, but also of diminishing to a remarkable extent the general tissue metamorphosis of the body.—*Practitioner*, April, 1874.

Eczema Capitis.—Cure it if possible, notwithstanding the somewhat prevalent idea to the contrary. The methed of procedure recommended is as follows:

First, apply a poultice every night until all the scabs are removed. The ulcerations, which are sometimes present after the scabs have been removed, are best cured by the application of a wash made of nitrate of silver grs. v. to the ℥ i. of water. The following is then used with good success: ℞. Aquæ cologne, ℥ iv.; glycerin, ℥ ij.; carbolic acid crystals, ℥ i.; borax, ℥ i. M. Continue the application for some time for the purpose of curing the eczema.—*Medical Record*, December, 1873.

Gelseminum in Gynæcologia.—Dr. H. V. Ferrel, in the *Clinic*, says he has found gelseminum to possess the property of causing a dilatation of the os uteri.—*Archives of American Medicine and Surgery*, March, 1874.

REMARKS, GLEANINGS AND EXTRACTS

BY LOCAL EDITORS.

Phophastic Food in Debility.—Dr. Routh, of London, gives, among others, the following instructive cases in the *Meaical Press and Circular:*

July 1. Rev. T. H. F., æt. about 60, has been a clergyman for many years, preaching with notes only, but lately has become confused whilst preaching, forgetting the thread; seems almost to have experienced, lately, want of power to grasp subjects. Recovers himself after a time, but the fear of this makes him very nervous; sleeps fairly, not troubled by dreams; lives in Cheshire, in a damp, cold neighborhood; loss of memory occurs frequently at other times than when preaching; no recollection, especially of names and figures; urine normal, no sediment; total loss of virile power; no backache, but a creeping sensation up from the nape of the neck; no loss of muscular power on either side; eyesight weak; no indigestion; cannot digest lobster; first sound of heart rather pro-

longed, especially at base; bowels regular in London, more so than in country. Ordered Parrish's food, oyster and other shell-fish, excepting lobster. As his teeth are bad, used a small digestive sausage machine. July 31. Greatly better. Had profited greatly from the treatment; the mental facilities much improved; states he is not the same man. He was now ordered allotropic phosphorus, g. x. daily, after his dinner. My last account from this gentleman was that he had completely recovered.

Mrs. Y., æt. about 42, consulted me in November last for loss of mental power and strength. The catamenia had stopped twelve months, and she, too, had a large family, with small means, and was much worried by creditors. Her memory is very defective, indeed gone; she can't remember anything, nor when she puts away any articles of dress. When she has a good night she is rather better for a few hours, and then the same state recurs. She is always worse if she has had her attention forcibly called to anything; is very restless at night; her feet being drawn up as if she was going to have a convulsion; is become shockingly bad-tempered; will become violent on the slightest contradition; feels very anxious and unhappy; bowels open; tongue clean; no leuchorrhœa at present, although five months back she used to have them copiously for two or three days in lieu of the catamenia. Ordered mustard to nape of neck; feet in hot water; half a drachm of bromide of potassium every night in water; sol. phosph. used m. x. *ter die*. A week after (November 12) was generally better, except that she had one bad day. On the 19th she was better, but she stated that she had taken the bromide very irregularly, finding she could sleep without it, and the head was much less giddy. This patient I saw for several weeks after. The treatment was interrupted by a bilious attack, which obliged me to suspend the phosphorus; subsequently it was resumed. She is now greatly better; feels that the phosphorus acts as a sort of tonic, or rather, as she expresses it, can't sleep without it. Memory greatly improved; some days not so good; but the intervals are longer, and generally her improvement is marked, and she is, in fact, convalescent.

Cancer.—Dr. Fordyce Barker, in the course of his remarks before the Literary and Medical Association, in regard to cancer, (*N. Y. Medical Record*) said:

I will now describe the plan of treatment as given by Dr. Marsden—the plan which he professes to have derived great success from, not only in a very considerable number of cases of cancer of the breast, but in the treatment of cancer of various parts of the body, and even of cancer of the neck of the uterus. This method of treatment is limited to cases in which the surface of the tumor

does not extend over two (2) inches. Care should be taken that the paste is of sufficient consistence so as not to flow beyond the point to which it is applied. The general formula for the preparation of the caustic is to combine arsenious acid and mucilage in such quantities as to make a thick paste, and the formula commonly employed for this purpose is: ℞. Arsenious acid, ʒ ii; mucilage, ʒ i. This paste is spread over the surface of the tumor, and two or three layers of lint spread over that. The lint absorbs all the surplus paste and protects from farther cauterization. The first application is left on for twenty-four or forty-eight hours, according to the extent of surface, and then removed by gently soaking it with warm water. After the old paste has been removed in this way, one judges from the impression made with regard to a farther application of the caustic. These applications are to be continued until a line of demarcation entirely surrounding the diseased structure is shown. Then the lint is soaked and removed, and a bread-and-water poultice applied, and changed every few hours. At first there is sometimes considerable inflammatory action set up, but the amount of pain is very inconsiderable as compared with the use of the knife, and the process of cicatrization is equally painless and satisfactory.

The shock to the system, as a rule, is very much less. The constitutional effect of the arsenic in this case was very slight, lasting only a few hours, and then passed away. Indeed, the moderate constitutional effect of arsenic I have long believed to have a certain positiveness in the treatment of cancer, in that it retards the proliferation of cancerous tissue. I mention these cases with the hope that it may contribute something to our knowledge of means by which we may meet this most terrific disease.

Amyl Nitrite and its Uses.—The following views of a German writer, Dr. Robert Pick, are given in the *Practitioner:*

1. Amyl nitrate produces a general torpidity of the whole muscular system, but it especially affects the organic muscular fibres. 2. The latter effect is especially to be recognized in the muscular fibres in the blood-vessels. A few drops of the amyl suffice to produce a rapid and inevitable dilatation of the vessels, more particularly of the upper parts of the body, with a simultaneous lowering of arterial pressure and hurrying of the heart's action. 3. This influence probably depends on a direct action upon the unstriped muscular fibres in the vessels. 4. In consequence of this action of amyl nitrite, it becomes a valuable remedy at once for all those diseases which depend on a spasmodic or excessive contraction of the vessels; and also, perhaps, which are produced by spasm of other muscular tissues, whether smooth or striped; espec-

ially, also, for many cases of hemicrania, angina pectoris, epilepsy, eclampsia, asthma, trismus and tetanus, and the like, in which it is, however, to be remarked that in many cases amyl only acts as a palliative.

The best mode of use is inhalation. A few drops are poured on a towel, or, as others recommend, on blotting paper or wool, and placed over the nose and mouth. There are other modes of application besides inhalation. Use by the stomach, and by subcutaneous injection; but the latter would seem from some observations to be less effective than inhalation, which is therefore to be preferred. Moreover, in this way we avoid upsetting the digestion. If given by the stomach, two to five drops must be administered on sugar. In inhalation we commence with one or two drops, and gradually increase to five, ten or fifteen drops for a dose. The latter quantity is necessary after prolonged use, as in all probability, amyl, like the narcotics, very easily sets up a habit of tolerance. The necessity, in epilepsy, *e. g.*, of having the remedy close at hand, yet without allowing a great quantity to be thrown upon the respiratory organs, gives to the following proceedure, employed by Dr. Strassburg, a practical recommendation: "Dry charpie is placed in a glass, and the proper dose is dropped upon it; the vessel is then closed by a stopper made absolutely air-tight by means of paraffine. The patient, when he feels any warnings of any attack, can rapidly open the glass and inhale the measured quantity without danger. It is, of course, to be understood that in that way of using it the remedy must be often renewed, owing to its great volatility and liability to decomposition."

A Hint in Giving Iodide of Potassium.—A useful hint is revived in the *British Med. Jour.*, by Mr. Jos. P. McSweeny. He writes:

Sir James Paget was the first to call the attention of the medical profession to the following interesting fact, viz.: that carbonate of of ammonia greatly increases the therapeutic action of iodide of potassium. I have had extensive experience in the treatment of syphilis, and have tried it with the best results, and find that five grains of iodide of potassium, combined with three grains of carbonate of ammonia, are equal to eight grains of the potassium salt administered in the ordinary way. The following case is a good example:

John ——, aged 50, consulted me about a sore situated on his left arm. There was a profuse discharge from it, and the smell was intolerable. On asking him a few questions, I got the following history: He had been a married man, his wife having died a short time ago; he had no children. Some years ago he contracted syphilis, and was treated by mercury, pushed to excessive sali-

vation. The secondary symptoms had been well marked, and the sore about which he consulted me was of eight months' standing. He consulted several surgeons, and could get no relief. I ordered him five-grain doses of iodide of potassium, combined with three grains of carbonate of ammonia. After taking a few tablespoonfuls of the bottle, the bad smell altogether disappeared, as a man told me who was sleeping in the same room. At first he could not bear the smell, but after taking a few tablespoonfuls of the bottle he could detect no smell. The man remained under my care for about a month, and in that short time was perfectly cured, and in very good health and spirits. I could publish five cases with almost similar results. I have also found it of the greatest service in the treatment of internal aneurism, by relieving the pain and helping to consolidate the tumor.—*Med. and Surg. Journal.*

Chloral Hydrate and Camphor as a Local Application in Neuralgia.—It is stated that the intimate mixture of equal parts of chloral hydrate and camphor will produce a clear fluid which is of the greatest value as a local application in neuralgia. Mr. Lenox Browne relates (*Brit. Med. Jour.*, March 7, 1874,) that he has employed it and induced professional friends to do so, and that in every case it afforded great, and in some instantaneous relief. "Its success does not appear," he says, "to be at all dependent on the nerve affected, it being equally efficacious in neuralgia of the sciatic as of the trigeminus. I have found it of the greatest service in neuralgia of the larynx, and in relieving spasmodic cough of a nervous or hysterical character." It is only necessary to paint the mixture slightly over the painful part, and to allow it to dry. It never blisters, though it may occasion a tingling sensation of the skin. He has also found it an excellent application for toothache. —*News.*

Administration of Bromide of Potassium.—Dr. Squibb, at a recent meeting of the New York Academy of Medicine, stated (*Medica Record*, May 1, 1874,) that he always employs a watery solution of bromide of potassium of the strength of $12\frac{1}{2}$ grains to the fluid drachm. The solution is always filtered, for by this precaution a solution which will remain clear is obtained.

The best vehicle for the administration of the remedy is ice-cold water. He has not found any stomach which has rejected the remedy when given in this manner. It should not be administered nearer than fifteen minutes before a meal. If given immediately before a meal, there will probably be developed evidences of interference with digestion. This is a rule which, for obvious reasons, it is well to observe, with regard to the administration of any of the alkaline salts.

Treatment of Delirium Tremens.—At the Roosevelt Hospital, New York, the standard prescription for this condition is: ℞.—Chloral hydrate, grs. xxx.; potass. bromide, grs. xl. M. To be given at bedtime, and continued through the day in smaller doses if necessary.

This treatment is for a fully developed attack. Milder cases are treated by two drachms of the tincture of lupulin, and in a majority of cases this is all that is required; for as soon as the patient has secured a few hours' sleep, the crisis is passed, and he will then begin to take his beef-tea and come up rapidly. A patient present who was suffering from alcoholism, and when admitted was very tremulous, was receiving: ℞.—Potass. bromide, grs. xxx.; morph. sulph., gr. ½. M. S. t. i. d.

Bellevue Hospital.—"What this class of patients most need is food and rest." Rest is usually secured by the administration of either potass. bromide in large doses, grs. xxx., every two hours perhaps, or chloral hydrate, grs. xx., every hour. It is necessary in using the latter remedy to be cautious with regard to the size of the first doses, until the strength of the preparation and the susceptibility of the patient is fully understood. . . Occasionally, even large doses will be of no avail. A very common prescription employed is the following: ℞.—Potass. bromide, ℥iiss.; chloral hydrate, ℥iss.; syr. aurantii, aquæ, aa ℥ij. M. S. Half fluid ounce, and repeated every hour, if necessary, to procure sleep.

Persistent nausea and vomiting must be treated with administration of ice, and the employment of nutritious injections. Careful examination must be made, and repeated, for pneumonia.

On Nervous Pharyngitis.—This is what is popularly known as "clergyman's sore throat." It is not an imaginary, but a real disease, and is not confined to clergymen, but is nevertheless a disease of the higher classes—the more delicately organized females—and hence especially of citizens and females. Dr. Hermann Klemm, of Leipzig, has made an admirable study of it in the *Deutsche Klinic*, No. 6, 1874. After a masterly portraiture of its symptoms, and a recognition that it often readily exists where none or very few and trifling local signs are manifest, he passes to the treatment. Here he discountenances decidedly all caustic applications and counter-irritants, and recommends penciling with chloroform and glycerine mixture, or morphia in gum arabic solution. Electricity occasionally works well, but is not permanent in results. Best of all is *change of air*, either to the sea, or to a sub-Alpine resort (two thousand to three thousand feet above sea level, as Heiden, Gais, Weissbad or Seewis, in Switzerland). The only advantage of mineral waters in this complaint, he thinks, rests in this change of air,

Sciatica Promptly Cured by Croton Chloral Hydrate.—Dr. R. W. Falconer, of Bath, relates (*Brit. Med. Jour.*, Feb. 28) the following case:

"A lady, æt. 50, of rheumatic diathesis, was suddenly seized with sciatica. The pain was most severe. Two grains of croton chloral hydrate, with enough extractum anthemidis to make a pill, were given. Half an hour after taking the pill, the pain had ceased; there was a very slight return afterwards. With the beneficial effect of the croton chloral hydrate, there was 'some confusion of head, and near objects appeared distant.' She had no pain the following day until the evening; then a sharp attack occurred. Half a pill was given at once, and in twenty-five minutes the pain was gone. She had 'slight confusion of head; no alteration of vision.' There has been no recurrence of sciatica since. The first attack occurred fourteen days ago."—*News.*

New Treatment of Cancer.—Another treatment of cancer has been brought out by Dr. Hasse, of Berlin. An account of it is given in the *Medicinische Central Zeitzung*, February 18. Dr. Hasse injects, with a hypodermic syringe, pure alcohol, to which one per cent. of ether is added, not into the new growth, but around its edges, thus obliterating, he claims, the vessels, especially lymphatics, which convey the infection, and causing the atropy of the growth itself. The pain is rather severe, but is much reduced by ice bags, and lasts only about two hours. The injections are repeated every eight to fourteen days, and have no alarming reactions. He claims striking success in carcinoma of the mamma, and in cauliflower excresence of the uterus, but has failed in epithelioma of the lip, which he attributes to the impossibility of obliterating by this means the large and closely adjacent artery.

Chloral and Morphia in Eclaupsia.—Dr. Condereau relates two cases in which the combination of these remedies was very satisfactory. A primipara in post-partum convulsions, one drachm of chloral failed to control them; the muriate of morphia, three-fourths of a grain was given hypodermically, followed by thirty grains chloral—complete relief. The other case was an epileptic man, 24 years old. The chloral alone failed, but the hypodermic use of mur. morphia, followed by ninety grains chloral, stopped the convulsions effectually. There has been some fear about giving opium and chloral together.

Electricity in Cerebro-Spinal Meningitis.—Dr. Todd (*Indiana Med. Jour.*) says: I have had the opportunity of using electricity in a severe case of cerebro-spinal meningitis, in which my most sanguine expectations were fully realized.

Ergotin Injections in Prolapsus Ani.—The eminent surgeon, Von Langenbeek, of Berlin, announces that he has lately been treating prolapsus ani "with astonishing success" by hypodermic injections of a solution of ergotin (five to fifteen parts to one hundred of distilled water). He replaces the bowl, and inserting the point of the syringe about three centimetres in depth in the cellular tissue, throws in from one to two grains of ergotin. This should be repeated every three or four days for three or four weeks, any hard fecal masses in the bowels being first removed by a simple injection. As a means of treating a most obstinate and troublesome complaint, this method, sanctioned by so eminent a name, deserves careful repetition.

Pepsin.—Dr. Eden publishes in the Boston *Medical and Surgical Journal*, for January, the following as his conclusions as to the virtues of pepsin, after using many different preparations: "Much of the dissatisfaction with pepsin, expressed by physicians, is due to the use of preparations which contain little or none of it. The pepsin made by Scheffor's process is far superior to any other in ordinary use. Elixrs of pepsin and bismuth are humbugs. Pepsin should be administered with an acid, and with as few drugs as possible. A small amount of alcohol is not inadmissible, but a large amonnt retards digestion. Its beneficial action is *not limited* by the amount of albumen which it dissolves in a test-tube without change or renewal of any of the contents."

Pomade for Intertrigo and Eruptions produced by Repeated Scratching.—The subnitrate of bismuth is a substance which causes eruptions to most rapidly and surely disappear in regions where the itching accompaning intertrigo has induced the scratching which has given rise to them. This is one of the most valuable therapeutical remedies. M. Legal uses it incorporated with glycerine. His formula is: ℞. Subnitrate of bismuth, 8 grammes; glycerine, 8 grammes, tincture of cochineal, twenty drops. The glycerine is a very valuable excipient, because it does not become rancid like the fats. The tincture of cochineal is added merely to give a color.—*La France Med.*

Bromide of Potassium in Dental Irritation.—Dr. J. Lewis Smith states (*Medical Record*, May 1, 1874,) that bromide of potassium in cases of dental irritation in infancy is so salutary in its effects that the gum-lancet need scarely ever be resorted to. It should be administered in doses proportionate to the age of the child, and repeated according to circumstances. The remedy is of service in the treatment of all local diseases except gastro-intestinal irritation and renal disease, where convulsions are threatening.

Editorial and Miscellaneous.

BIBLIOGRAPHICAL.

MANUAL OF EYE-SURGERY. By A. J. Howe, A.M., M.D. Author of "A Treatise on Fractions and Dislocations," etc. Cincinnati: Printed by Wilstach, Baldwin & Co. 1874.

This is an excellent manual by a gentleman who understands practically whereof he teaches. It will fill a place, well and conveniently, in the libraries of the active practitioner, who will find the practice good and the matter sufficiently condensed to meet his daily wants.

ANNUAL REPORT OF THE SUPERVISING SURGEON OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES. For the fiscal year 1873. *Complimentary*, by John M. Woodworth, M.D.

This is a valuable volume. Besides the Report proper, which is devoted, among other things, to "a summary statement of observations U. S. Marine Hospital service; statement of hospital relief; table of diseases treated in Hospital, etc.," it contains an appendix with the following valuable contributions: Hospitals and Hospital Construction, by J. M. Woodworth, M.D.; Natural History of Yellow Fever in the United States, by J. M. Toner, M.D.; Yellow Fever Epidemic; Reports from Medical Officers; Report of a Case of Double Diaphragmatic Rupture of Hernia, by Thomas T. Minor, M.D.; Urethral Strictures, by C. N. Ellinwood, M.D., etc. It is a handsome volume, and contains several good illustrations and maps.

TREATMENT OF NERVOUS AND RHEUMATIC AFFECTIONS BY STATIC ELECTRICITY. By Dr. A. Arthius. Translated from the French by J. H. Etheridge, M.D., Prof. of General Therapeutics, Rush Medical College, Chicago. W. B. Keen, Cooke & Co. 1874.

The author claims very great advantage in the use of static electricity, in its application for the cure of nervous, rheumatic and other affections, over the general method now employed. The

application is new, and, we doubt not, superior to the usual manner of administering electricity. It is, at least, worthy the attention of the profession, by whom, we trust, it will be thoroughly tested.

The following pamphlets have been received: What Effect does Syphilis have upon the Duration of Life? by Fred. R. Sturgis, M.D. Electrolysis in the Treatment of Stricture of the Urethra; by Robert Newman, M.D. The Treatment of Uterine Flexions; by Ely Van DeWarker, M.D. Treatment of Vascular Nævi with the Galvanic Cautery; by B. F. Dawson, M.D., of New York.

ATLANTIC MONTHLY.—The July number of the "Atlantic" comes to hand replete with its usual feast of "good things." The Atlantic is always "tip-top," rich in contents and unexcelled in its get-up. The "Rebel" George Cary Eggleston gives its readers a few scenes behind "Confederate" times, which is good reading for summer. Price, $4. H. O. Houghton & Co., 219 Washington street, Boston.

RETIREMENT.—We learn from Dr. B. F. Dawson that he has retired from the editorial management of the *American Journal of Obstetrics and Diseases of Women and Children*, of which he was the founder. Dr. Dawson is a fine scholar and accomplished medical gentleman. The editorial brotherhood, no less than the profession, will miss his valuable services. The *Journal* is now, we learn, published by Wm. Wood & Co., N. Y.—*but we never see it.*

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HEARTH AND HOME has changed hands, and is now published by the "Graphic Newspaper Co." It is filled to overflowing with illustrations and is a treasure-house of art. Price, $3. Address Graphic Company, 39 and 41 Park Place, New York.

LIPPENCOTT'S MAGAZINE for July is splendedly illustrated and rich in literary gems. It will be a constant source of pleasure and instruction in the family. Price, $4. J. B. Lippencott & Co., Philadelphia.

CATCHING UP.—We trust in the next number to fully catch up with our gleanings, which have been crowded out, to so great an extent, in the last two issues.

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We shall, during the coming year, devote only a few pages to our advertising department.

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